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OF
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A JOURNAL PUBLISHED MONTHLY IN THE INTEREST OF
MEDICINE AND SURGERY

J. J. CASSIDY, M.D., EDITOR.

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VOL. XX.

TORONTO, JULY, 1906.

NO. 1.

Original Contributions.

A SERIES OF INTESTINAL ANASTOMOSES.

BY THOMAS S. CULLEN, M.B. (Tor.).

Associate Professor of Gynecology, Johns Hopkins University.

IN going over my cases of the last few years I thought it might be advisable to describe in detail those in which it was necessary to remove portions of the bowel. The number is somewhat limited, but each case offers several points of interest:

Secondary carcinoma of the small bowel, 1 case.

Primary carcinoma of the cecum, 2 cases.

Tuberculosis of the cecum with perforation, 1 case.

Carcinoma of the sigmoid flexure, 1 case.

Carcinoma of the sigmoid flexure, complicated by a large uterine myoma, 1 case.

Carcinoma of the rectum secondary to a primary growth in the right Fallopian tube, 1 case.

Rectal diverticula, with perforation and abscess, 1 case.

SECONDARY CARCINOMA OF THE SMALL BOWEL.

In the following case a loop of the small bowel had become adherent to a friable carcinoma of the ovary. The growth had invaded the intestinal wall and the slightest traction was sufficient to rupture it. The Connell interrupted suture was employed except for the last few sutures, where we used mattress sutures penetrating the peritoneal and muscular coats but not piercing the mucosa. To make doubly sure we reinforced with a running suture entirely around the bowel. As it was impossible to completely remove the carcinoma of the ovary, a large gangrenous

area being left behind and requiring drainage, we found it necessary to push the loop containing the anastomoses far over to the left among healthy loops; otherwise it would certainly have been infected by the necrotic and gangrenous tissue. As noted in the history the bowel gave no further trouble.

*Tentative diagnosis: Subperitoneal and intraligamentary myomata. Actual condition: Hydrosalpinx, adeno-carcinoma of the right ovary, involvement of the small bowel and marked extension to the bladder. Hysterectomy, partial removal of the cancerous growth, resection of a portion of the small bowel; temporary recovery.**

History.—On Jan. 25, 1904, I saw the patient, who was 48 years of age. Her menstrual periods had continued regularly until she was 44. Since then the flow had appeared every three or four months, and there had been a slight vaginal discharge. Two years previously she had passed a calculus, apparently from the left kidney.

Examination.—On vaginal examination I found the uterus half as large again as normal. Projecting from the fundus on the right side, and very prominent, was what appeared to be a subperitoneal myoma about 5 cm. in diameter. The right side of the pelvis was filled by a growth which apparently sprang from the uterus and filled the broad ligament. This growth in contour and consistence resembled a myoma.

Operation.—On opening the abdomen (Feb. 2) I found the uterus moderately enlarged. The supposed subperitoneal myoma proved to be a very tense hydrosalpinx, which was kinked forward, thus accounting for its prominence. The growth on the right side was a carcinoma of the ovary. It filled the broad ligament and had infiltrated the bladder wall. Attached to the cancerous mass was the omentum with a loop of small gut. As the gut at this point was markedly constricted, I attempted by gentle dissection to release it, but the bowel was so infiltrated by cancer that it commenced to tear and resection of a portion was imperative. It was decided that the only hope of even temporary relief would be hysterectomy with as thorough removal of the growth as possible. This was done, but a raw, green, offensive, cancerous area, fully 6 cm. in diameter, remained attached to the surface of the bladder. Three inches of the bowel were then resected and the ends united by means of the Connell suture, supplemented by the Lembert suture. The anastomosed bowel was then placed among healthy loops of gut as far removed from the necrotic area as feasible. The pelvis was drained through the vagina and abdomen. The patient recovered

*Extracted from the *Journal of the American Medical Association*, November 19, 1904.

promptly, but naturally still has a small abdominal sinus. We have employed a retention catheter continuously, as even its temporary removal was promptly followed by the signs of ascending renal infection. In November, 1904, the patient was in fairly good condition and had been entirely relieved of abdominal distension and cramps, to which she had been subject for some time prior to the operation.

In this case the clearly outlined subperitoneal nodule associated with the growth on the right side gave us a clinical picture very characteristic of multiple myomata, and this diagnosis was further strengthened by the healthy appearance of the patient. Some may doubt the wisdom of attempting any operative procedure in these cases, but in the liberation of the constricted and friable intestinal loop the bowel was opened, and then the more



FIGURE 1. SCHEME OF OPERATION IN GROWTHS OF THE CECUM.

1. Lateral anastomosis between the transverse colon and small bowel. 2. Section of ileum and closure of end. 3. Removal of the growth and closure of the end of the transverse colon. If the patient should suddenly collapse the operation may be abandoned at any one of these three steps.

radical procedure seemed to offer the best chance of temporarily relieving the patient. In this case an absolute diagnosis would have been impossible without opening the abdomen.

PRIMARY CARCINOMA OF THE CECUM.

We have operated upon two cases of this variety. One patient was 55 years of age, the other 56. In Gyn. No. 12197 the patient was greatly emaciated, had complained for months of straining in the lower abdomen and later had passed much blood. The tumor was easily palpable in the cecal region and operation was at first deemed out of the question. After a week's rest in the hospital, however, she had improved and at her earnest solicita-

tion the operation was undertaken. The subsequent months of comparative comfort were certainly well worth the ordeal of the operation, and up to the last she never had the unpleasant and racking symptoms that had been present before the operation.

In case No. 12016 the patient had lost some weight but was still in fairly good condition. She had never had any bloody stools and complained of very little discomfort. It is sometimes difficult to understand why in the one case there was so much hemorrhage while in the second, apparently equally far advanced, there was never any loss of blood. In the latter the character of the growth may afford the explanation. It was a colloid carcinoma. The greater part of the growth had been converted into colloid material. Near the surface few blood vessels were present. Case 12197, on the other hand, was a typical instance of adenocarcinoma with small glands.

In one case we left a fistulous opening, in the other we closed without drainage. The latter method is, I think, the better procedure. In cases of carcinoma of the cecum it seems wiser to make the lateral anastomosis with Robson's or Moynihan's clamps first. If the patient be too weak, the subsequent steps of the operation can be omitted (Fig. 1). If she be still in fair condition the growth is removed and the ends of the ileum and ascending colon can be closed.

Adeno-carcinoma of the cecum; great emaciation; lateral anastomosis between the ileum and transverse colon; resection of the diseased bowel; temporary recovery.

Gyn. No. 12197. Mrs. J. R., white, aged 56. Admitted to the Johns Hopkins Hospital, June 21, 1905. Discharged Aug. 2, 1905.

The patient's chief complaint is of weakness and exhaustion. She has never been strong. Six years ago she had general dropsy. Has been married 37 years. Has had five children, the youngest 25 years old. The menopause occurred five years ago. Two years ago the patient began to pass much mucus by the rectum and had a good deal of straining in the lower abdomen. She passed no blood. This condition persisted until four weeks ago when the movements became very dark and foul-smelling; there was never any bright blood in the stools. There has been rapid loss of weight and strength and a tender lump has recently been noticed in the right iliac fossa just above the crest. This has become increasingly tender and for the past week the exhaustion has been extreme. There have been no nausea, vomiting, or stomach symptoms of any kind. On examination I found the patient very much emaciated, of a sallow tint, the mucous membranes were pale and it was with great difficulty that she could walk. Just

above the crest of the ilium on the right side, extending into the right iliac fossa, a firm, irregular and very tender mass can be felt. This is apparently situated in the cecum or in the abdominal wall directly over the cecum. Extending upward from this is a tumor mass. When the patient came to me I told her husband, who is a physician, that it was useless to perform any operation, but that we could send her to the hospital for a week's rest prior to her going away. During the week she gained considerably but then had an intestinal hemorrhage and lost ground. She again improved to some extent and wished to have something

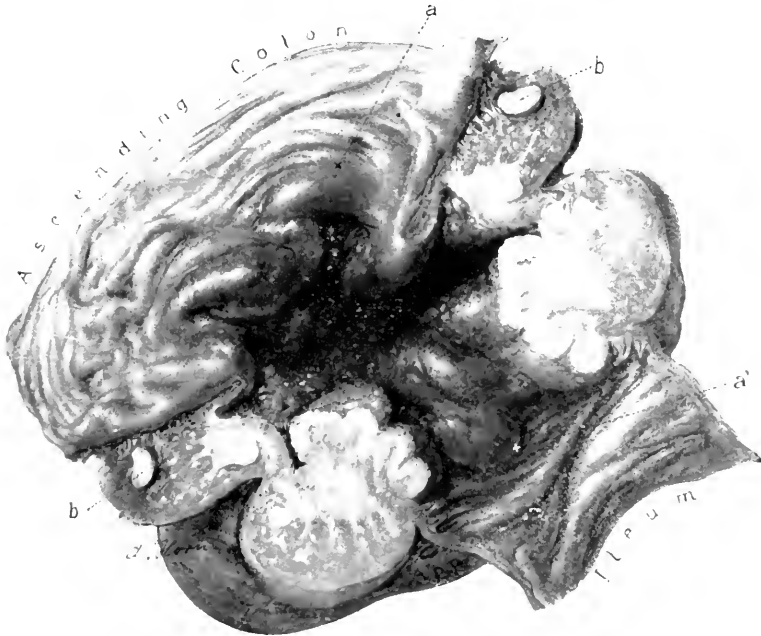


FIGURE II.—CARCINOMA OF THE CECUM.

The greater part of the picture is occupied by the crater-like growth with undulating walls. Its line of advancement in the ascending colon is indicated by *a*. Its encroachment on the ileum by *a'*. The pericecal fat is infiltrated by discrete nodules as seen by *b*.

done. It was only after a great deal of persuasion that we decided to do an exploratory operation, not for a moment deeming that it would be feasible to remove the growth. On June 18, 1905, she was very much improved in color and strength and her hemoglobin had increased to 60 per cent. The mass in the right iliac fossa was not nearly so tender as on admission.

Operation, July 5.—The tumor mass involving the cecum was found freely movable. No enlarged glands in the mesentery or in the omentum could be detected, nor was there evidence of peritoneal metastases. On account of the apparent limitation of the growth we decided to remove it. The mass was freed from the

peritoneum of the lateral wall to which it was adherent. Not knowing just how long the patient could stand the operation we divided the procedure into three steps. First we made a lateral anastomosis between the lower end of the ileum and the transverse colon. Next the ileum was cut across at a safe distance from the growth and the end turned in and closed. The third step consisted in loosening up the growth, severing the ascending colon above the growth and closing the colon. In this way we could have hurriedly concluded at any one of the three steps. The abdomen was closed without drainage. In freeing the tumor we had to be exceedingly careful, as the ureter lay directly beneath the tumor. The right kidney had been prolapsed and the edge of it also lay beneath the tumor. The kidney was in close contact with the tumor and helped to make the growth seem so large.

July 8.—The patient has done well since the operation; she has had no nausea nor vomiting since the first day. No distension. She is taking her nourishment well.

Several days after this she became exceedingly weak and it was thought that she could not recover, but she speedily regained ground and was discharged apparently well on Aug. 2.

Sept. 6.—The doctor wrote me: "I am glad to say that the patient has been home from the hospital five weeks to-day and has increased one pound a week in weight. Her appetite is good, in fact, better than for two years. Her complexion is fairer than for years. She is on her feet the greater part of the day. Takes breakfast in her room, but the other two meals she enjoys at the table with the family. Her bowels are all right. At times she has some abdominal soreness and swelling."

I saw the patient in November. Her general condition was good, but she had some soreness in the right side. On careful palpation we could still detect the sensitive and prolapsed right kidney, but there was no evidence of metastases at any point.

She grew a good deal weaker and died on Jan. 8, 1906, free from pain and perfectly conscious.

Path. No. 8823. The specimen consists of the cecum, of the surrounding fat and of the appendix. The entire mass is board-like in consistency. The appendix is practically normal in size and is glued down to the cecum and to the neighboring fat. The hollow cup of the cecum is surrounded by a dense wall varying from 1 to 3 cm. in thickness. The cavity presents a crater-like appearance and is 3 cm. in depth (Fig. 2). The tissue is dark and crumbly. The mucosa, where present, is dark in color. Projecting from the mucous membrane are large and small nodules of the growth. On one end of the section is normal mucosa belonging to the ascending colon, on the other a considerable flap of normal ileum.

Histological Examination.—The cavity is found to be lined by many glands which present a tree-like arrangement, the epithelium being one layer in thickness. This tissue shows a great deal of round-celled infiltration. The well-advanced parts of the growth are composed of quantities of glands closely packed together. These glands are small and in many places the epithelium has proliferated to such an extent that the gland cavity is completely filled. The cell nuclei are remarkable for their uniformity in size. The growth is a typical adeno-carcinoma which has extended far beyond the contour of the wall of the bowel. The outlook, of course, is unfavorable.

Adeno-carcinoma of the cecum with extensive involvement of the lymph glands; resection of the diseased bowel. Patient apparently well.

Gyn. No. 12016. Mrs. F. H., admitted to the Johns Hopkins Hospital, April 2, 1905. Discharged, June 1. The patient is a widow 55 years of age, white. Her family and previous histories are not important. She has had two children. Her present trouble began about three years ago with an attack of diarrhoea, loss of weight, and general ill health. During the past two years she has had several attacks of colitis. Repeated examinations of the stools have been negative. Abdominal palpation from time to time did not reveal anything. She has lost about 30 pounds in weight during the last year, but recently has gained some. She is quite anemic: red corpuscles 2,700,000, leucocytes 7,000, hemoglobin 40 per cent. She has had little or no pain but a general sense of soreness at short intervals. In the right iliac fossa Dr. Nathan R. Gorter noticed a slight thickening about three weeks ago. This has been growing since that time. Appetite poor, bowels regular, no bleeding from the bowel at any time. On careful palpation I was able to detect a distinct area of induration in the region of the cecum. This appeared to be 4 cm. in diameter, but was no index to the actual size of the growth.

April 3.—A long incision was made through the right rectus. A carcinoma was found involving the cecum and a small portion of the ileum and about half of the ascending colon. The bowel was freed and clamped above and below. A lateral anastomosis was then done by means of the Moynihan forceps. The free end of the ascending colon was closed, the end of the ileum brought out through the lower angle of the abdominal incision and the abdomen closed.

April 6.—The patient has been unable to retain any nourishment. The nausea continues. The bowels have moved, per rectum, several times. The free end of the ileum that was brought

out through the lower angle of the wound is sloughing off to some extent. There is no escape of fecal matter through it.

Nausea and vomiting continued at intervals for a week and there was at times free fecal discharge from the enterostomy wound. The patient gradually improved, and several attempts were made to close the fistulous opening, but the bowel was so much indurated as a result of fecal matter coming over it, that the sutures did not hold. The patient made a very satisfactory re-

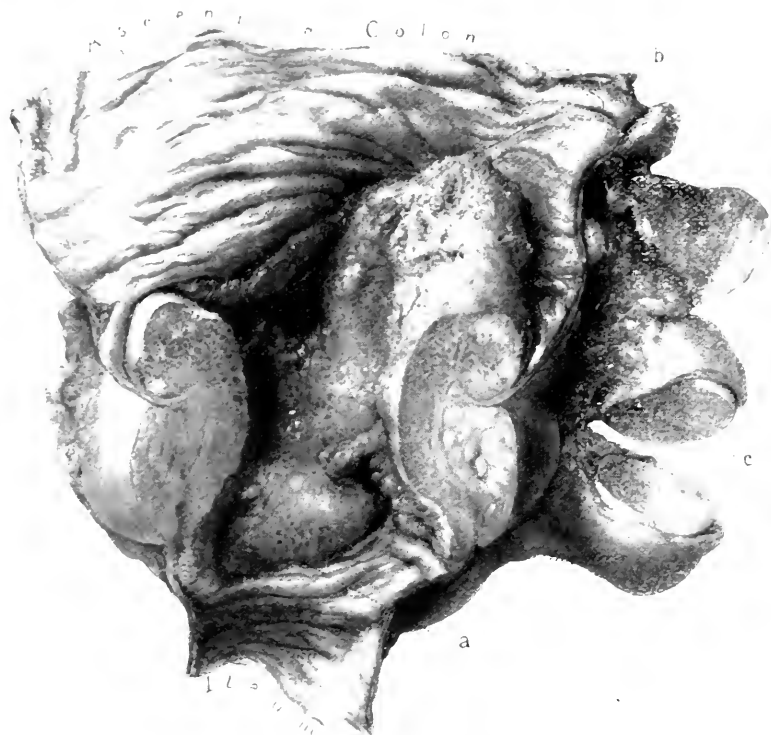


FIGURE III.—PRIMARY COLLOID CARCINOMA OF THE CECUM.

Gyn. Path. 8490. In the lower part of the section healthy ileum is seen. In the upper part unaltered muco-sa of the ascending colon. The lower margin of the growth is indicated by *a*. The extension in the ascending colon by *b*. The growth is very thick and projects in places fully 1.5 cm. into the lumen of the bowel. It presents a trans-lucent appearance and shows very little breaking down except in the vicinity of *b*. This accounts for the absence of hemorrhage. *c* is a very large mesenteric gland. It was fairly riddled with the adeno-carcinomatous growth.

covery and was discharged from the hospital on June 1. There was, however, a slight fecal fistula.

Feb. 28, 1906.—The fistulous tract closed fully three months ago. The patient is in excellent condition and is able to go everywhere. She is in better health than for years. Of course, the outlook is very unsatisfactory, considering the histological findings.

Gyn.-Path. No. 8490.—The specimen consists of the cecum, appendix and a small part of the ileum, also of several mesenteric lymph glands. The growth itself is approximately 10 cm. in length, 9 cm. in breadth and about 8 cm. in thickness. The outer surface is nodular and at several points rather friable. It looks waxy or gelatinous and at first sight would make one think that it was somewhat edematous. The enlargement, on careful examination, is found to be due to infiltration of the fat, especially in the vicinity of the appendix, by the nodular growth which here and there is granular. The walls of the cecum vary from 5 mm. to 1.5 cm. in thickness. The tissue has a gelatinous appearance and is somewhat transparent. In some places the growth is dirty and necrotic-looking. The line of junction between the growth and the ascending colon is sharply defined, the growth projecting about 8 mm. from the surface. The line of demarcation between the growth and the ileum is also sharply defined, but here the mucosa of the ileum is undermined. The largest lymph gland in the mesentery reaches 2.5 cm. in diameter.

On *histological examination* the mucosa at the edge of the growth is seen to be normal. As we approach the growth, however, it shows considerable small round-celled infiltration. It then ends abruptly and is replaced by the new growth, which also consists of glands. These glands, however, are large and small and not regular as we find in the normal mucosa. Their epithelium in many places has so proliferated that the gland lumen is obliterated. In other places large and small colonies of glands are seen. The nuclei of the gland epithelium are fairly uniform in size; some, however, are larger than usual and stain deeply. From the gland grouping one would not hesitate to make an immediate diagnosis of carcinoma. In other places the glands are exceedingly small and closely packed together. This is especially evident where the tissue is dense and surrounded by much small round-celled infiltration. At other points the glands are separated from the stroma by a colloid secretion, and in the outlying portions of the growth where the cancer has run wild this colloid material is so pronounced that the epithelium has almost entirely disappeared, apparently being converted into this colloid material. The growth has extended to the outer surface of the bowel and, as was noted at the operation, extended to the adjoining mesentery. Far out in the adipose tissue is a lymph nodule 4 mm. in diameter. Along its margin at two points are large areas of carcinomatous infiltration where the gland type is perfectly preserved. The large lymph gland has been given over almost entirely to the new growth and few if any lymphoid elements are to be detected except just along the margin of the nodule. The case is one of adeno-carcinoma of the cecum, in which the colloid-producing cells predominate.

TUBERCULOUS STRICTURE OF THE ASCENDING COLON.

The careful and exhaustive articles bearing on lesions of this character that have already appeared render it superfluous for me to enter into a detailed consideration of the subject. Those wishing to study the subject fully are referred to the interesting articles of Henri Hartmann and Pillet,^{*} and Reclus,[†] in the French; of Hofmeister,[‡] Adolf Hartmann,[§] and Gross,^{||} in the German, and of Lartigau,^{**} in this country. Hofmeister has tabulated all the cases he could find in the literature, and his consideration of the subject is most thorough, while Baumgarten, through his students, Hartmann and Gross, has contributed not a little to the pathological aspect of this disease. The works of Lartigau and Hofmeister should be carefully read by all particularly interested in this class of cases.

Tuberculous ulceration of the intestine is relatively frequent, as evidenced by the findings at autopsy, but stricture of the lumen of the bowel following as a result of this condition is somewhat rare. Hofmeister says that Eisenhardt, in 1,000 autopsies on tuberculous patients, found intestinal lesions 566 times. In only 9, however, was there a more or less definite stricture of the bowel.

Tuberculous strictures of the bowel are usually single and situated at the ileocecal valve. The cecum is converted into a sausage-shaped mass, which is adherent, as a rule, posteriorly and occasionally laterally. The omentum, although at times adherent to the growth, is not as prone to engraft itself on the tumor as in cases in which appendicitis exists. The outer surface, while relatively smooth, may be studded by a few tubercles. At one point the gut shows a constriction, and usually around this the adipose tissue is very dense. Where the cecum is cut into, the mucosa frequently shows considerable alteration. It is sometimes studded with irregular or serpiginous tuberculous ulcers, while the intervening mucous membrane is the seat of a chronic inflammatory process. At the point of stricture the lumen of the gut is so narrow that the tip of the finger can hardly be introduced. In some cases so small is the calibre of the bowel that a sound is passed with difficulty, and in one case a small bird-shot was sufficient to completely occlude the canal. The degree of alteration in the cecum varies with the individual case, and it is only necessary for the reader to picture the tuberculous process advancing until the cecum becomes matted and densely adherent to all the neighboring structures, and, in rare instances, the process gradually involves the abdom-

Note sur une variété de typhlité tuberculeuse simulant les cancers de la région, *Bull. de la Soc. anat. de Paris*, 1891, t. lxxvi, p. 171.

^{*} Typhlité et appendicite tuberculeuses, *Clinique Chirurgicale de la Pitié*, 1891, p. 317.

[†] Ueber multiple Darmstenosen, tuberkulösen Ursprungs, *Beiträge zur klinischen Chirurgie*, 1896, Bd. xvii, S. 577.

[‡] Ein Fall von tuberkulöser Darmstenose, *Inaug. Diss.*, Tübingen, 1897.

[§] Ueber Stricturirende Darmtuberkulose, *Inaug. Diss.*, Tübingen, 1901.

^{||} *Journal of Experimental Medicine*, 1901, vol. vi., p. 23.

^{**} *Journal of Experimental Medicine*, 1901, vol. vi., p. 23.

inal wall until finally there is a fistulous opening on the surface. Even in the early stages the mesenteric glands are enlarged and already involved in the tuberculous process, and where the cecal invasion is apparently in its incipiency there may be caseation of these glands.

Tuberculous stenoses of the gut, when multiple, are almost invariably situated in the ileum. Anywhere from one to twelve strictures have been noted in the same patient. In one case Hofmeister found twelve strictures scattered over a distance of about seven feet of gut. The bowel between the strictures is frequently distended, and in rare cases has been known to reach 17 cm. in circumference. Lartigan draws especial attention to a group of these cases in which, associated with the tuberculous process, there is a marked diffuse thickening of the bowel wall, which occasionally reaches 1 cm. or more in thickness.

The appendix is usually adherent, but, except where the tuberculosis of the cecum is far advanced, shows no implication in the specific process. Our case proved no exception to the rule. Although bound down by adhesions, the appendix was otherwise normal.

Histological Picture.—In sections from the cecum the edges of the ulcers may show tuberculous tissue, but, as a rule, epithelioid cells or typical tubercles are wanting, and nothing but granulation tissue can be made out. In the vicinity of the muscle, however, groups of epithelioid cells, and now and then tubercles, are seen. The peritoneal surface is usually free from tuberculous nodules until the disease is far advanced or unless the cecal lesion has been associated with tuberculous peritonitis. Sections from the stricture are composed entirely of connective tissue; sometimes with, at other times without, areas even slightly suggestive of tuberculosis. The adipose tissue surrounding the gut at the point of stricture is much infiltrated with small round cells, rendering the fat exceedingly hard and firm. Sections from the lymph glands in the region of the cecum almost invariably yield typical tubercles.

Naturally the tuberculosis gradually extends to the muscle and outer coats of the bowel. The farther away the process extends from the lumen of the bowel, the more characteristic will be the specific lesions, since the inflammatory changes produced by the intestinal bacteria have less opportunity of masking the tubercles. The diffuse thickening or "chronic hyperplastic tuberculosis" of the intestine yields a picture very different from that of simple tuberculosis, as has been clearly pointed out by Henri Hartmann, Lartigan, and others. In these cases the tuberculous process has been relegated entirely to the background, while the mucosa and muscle have been overrun with round cells. Intestinal bacteria

have doubtless gained entrance to the walls through the tuberculous lesions and have continually kept up a chronic inflammation of the bowel wall so widespread in character that the tuberculosis is entirely overshadowed. At a few points, however, it will still be demonstrable, and can be detected with certainty in the mesenteric lymph glands. Even in the cecal wall, when the typical lesions are totally wanting, tubercle bacilli can still be readily demonstrated.

Clinical History.—Patients presenting tuberculosis of the cecum are usually between twenty and thirty years of age. The condition, however, may be found in the very young, and has been noted in persons fairly advanced in years. Quite commonly the patient has suffered from an old tuberculous process in the lungs or has a suspicious family history. In many of the cases which have come to autopsy healed lesions in the lungs have been demonstrated, while in a few instances there has been swelling of the cervical, axillary, or other lymph glands coincident with the cecal lesion. One of the first symptoms is constipation. After a time dull or sharp pain is felt in the appendiceal region. As the constriction develops there may be an intermittent diarrhea, with the gradual narrowing of the bowel, and fulness may be noted over the cecum. Where there is much infiltration of the intestinal wall the gut becomes very firm and feels like a sausage-shaped tumor. With the gradual growth of tuberculous tissue and narrowing of the bowel symptoms of obstruction manifest themselves, as evidenced by abdominal distension, colicky pain, marked peristalsis, vomiting, and rapid loss in weight.

But although these symptoms may be present, in some instances definite indications of the presence of the lesions may be entirely absent. In our case the patient felt well until the day before operation, complaining only of slight discomfort near the appendix.

Diagnosis.—With the increased attention paid to cecal tuberculosis the possibilities of overlooking these lesions will be lessened. It was only a few days after our case was operated upon that Dr. Finney saw a patient giving symptoms sufficiently suggestive of a tuberculous lesion in the cecum to render such a diagnosis justifiable. At operation the cecum was found to be the seat of a most extensive tuberculous ulceration. Fortunately, it was found possible to excise the whole of the diseased area.

Given a tumor in the right iliac fossa, of slow growth, a clinical history pointing to a previous pulmonary tuberculosis, and a comparative absence of temperature, it is highly probable that tuberculosis is present. If a patient be fairly well advanced in years, of course, the possibility of a malignant growth must be considered. As pointed out by Hartmann, Lartigan, and other

authorities, tuberculosis of the cecum, especially of the hyperplastic form, has often been taken for sarcoma. This has been due to the massive infiltration with small round cells. But provided that we remember that they form a definite infiltration, instead of one or more large foci, and further, that the cells are uniform in size instead of being large and small and actively dividing, confusion is not likely to occur.

The gross diagnosis between tuberculosis and carcinoma of the cecum may offer numerous difficulties, but on microscopic examination no confusion can exist, as in the tuberculous process the epithelial elements play an entirely passive role or have disappeared. Moreover, the demonstration of the tubercle bacilli is generally easy.

The diagnosis between cecal tuberculosis and appendicitis is usually dependent on the tuberculous history and the slow growth of the tumor, together with the absence of a temperature suggestive of a pus accumulation. Of course, in a case similar to the present one, a differential diagnosis would be absolutely impossible.

Treatment.—If tuberculosis of the cecum be diagnosed early operation is indicated. Resection of the entire diseased area is, of course, necessary for an absolute cure. Lateral anastomosis between the ileum and ascending colon is the ideal operation. If after resection of the diseased portion of the gut very little mobility be obtainable, in order to avoid tension an end-to-end anastomosis is the only alternative. Where there are numerous strictures scattered over an area of several feet of gut, the question arises as to whether the entire diseased area should be excised or several anastomoses be made, removing only the diseased segments and leaving the intervening normal gut. If the span of gut involved by the tuberculous process be not over three or four feet, it is wiser to remove this portion in its entirety. In one of the cases reported six or seven feet were removed, and the patient recovered. With the diseased cecum it is always necessary to carefully examine the glands of the mesentery, and if they be involved, they too should be excised. The results from resection have been very gratifying. Hofmeister in his table of 83 operative cases showing a recovery of 62 per cent.

*Tuberculous stricture of the ascending colon, with sudden total obstruction of the bowel; perforation of the intestine; removal of the cecum and half the ascending colon. Recovery.**

The following is taken from my case-book, November 29, 1902: At 11 p.m. I saw, in consultation with Dr. Charles E. Simon, Miss K. G., aged twenty-four years. The day before she

had had indefinite pains in the region of the appendix. They were, however, not very severe and lasted but a short time. To-day she did her work as usual and prepared supper, but shortly afterward was taken with severe pain in right side and was forced

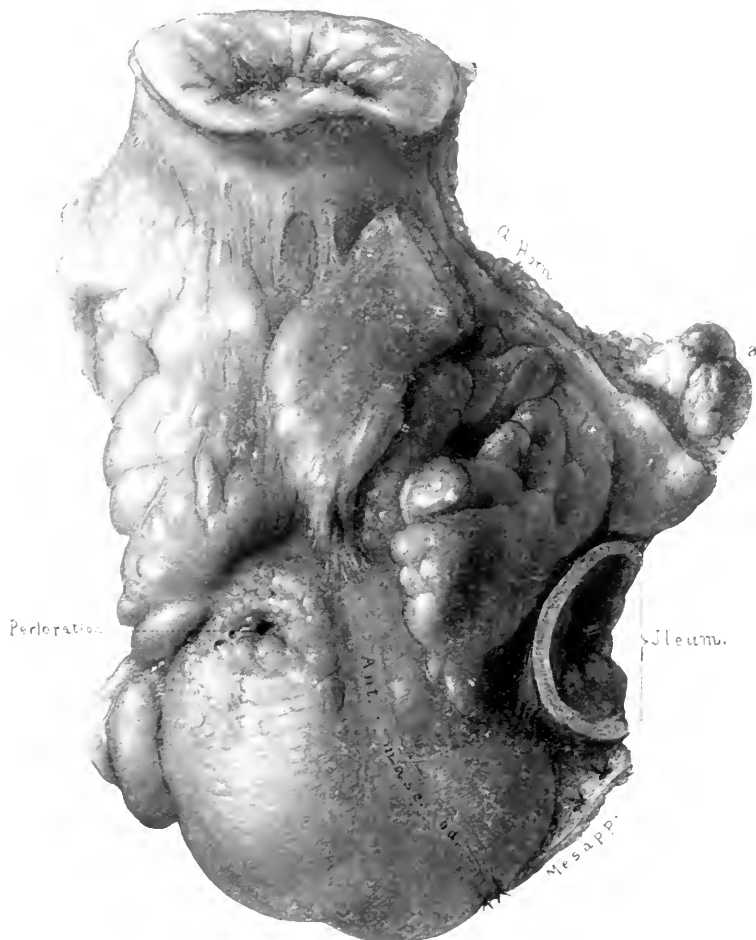


FIGURE IV.—TUBERCULOSIS OF THE CECUM WITH PERFORATION.

Above is a cross-section of the ascending colon. Below and to the right the ileum. At a point directly opposite the ileum is a perforation of the cecum, and just above the perforation the adipose tissue is thickened and there is a constriction of the gut. At *a* are two enlarged and tuberculous lymph glands. (For the interior view of the specimen, see Figures 5 and 6.)

to go to bed. At 9 p.m. Dr. Simon saw her. There was marked rigidity of the right rectus over the appendiceal region. There was little temperature. On examination of the blood Dr. Simon noted that all eosinophiles had disappeared and that there was

an evident leukocytosis.* When I saw her two hours later the rigidity of the right side had in part disappeared, probably as she was slightly under the influence of morphine. The general condition was good; pulse full and regular. Nevertheless, I advised immediate operation.

At 1.30 a.m. the abdomen was opened and a thin, watery pus immediately escaped from the peritoneal cavity, and the pelvis was found to be completely filled with pus. The intestinal loops, however, on the whole, presented a fairly normal appearance. Here and there they were covered by a few flakes of fibrin. The appendix was easily recognized and was bound down by adhesions. It was tied off from tip to base. As the distal extremity appeared to be normal, we expected to find a perforation near the cecum, but on complete removal of the appendix it was found that, apart from adhesions, no alteration was present. After removing the pus from the abdomen a sponge was passed into the right renal pocket to see if any pus was there, and, to our surprise, some dark fluid escaped. This was entirely different from that found in the pelvis. The abdominal incision was continued upward to the ribs, and we immediately saw a perforation, about 4 mm. in diameter, in the ascending colon. As there was a good deal of fluid escaping, I temporarily closed this fistulous opening with a purse-string suture. I then drew the ascending colon out and made a longitudinal incision, and on introducing the finger into the colon found total obstruction a short distance above the ileocecal valve. The lower third of the ascending colon, the cecum, and a small portion of the ileum were tied off and removed, together with some enlarged glands in the mesocolon. The ascending colon and ileum were then united by end-to-end anastomosis. Lateral union would have been preferable, but we had no choice, as the tissues would have been on too great a tension. A Connell suture was employed for two-thirds the circumference of the gut, the remaining third being turned in with rectangular mattress sutures. The entire line of suture was reinforced by running mattress sutures. The pelvis was carefully sponged out, the intestinal loops were brought up into the abdomen, and the entire pelvis was loosely packed with iodoform gauze.†

A gauze drain was left at the site of the anastomosis. The patient stood the operation well. Her pulse did not rise above 100. The outlook, however, was not particularly flattering, com-

* Simon lays much stress on the frequent absence of eosinophiles where pus is accumulating and thinks that this sign is of more practical value than the degree of leukocytosis.

† For several years, where the pelvis has been filled with free pus, I have made it a practice, after having wiped the pelvis and intestines off, to place the patient for a moment in the Trendelenburg posture. The pelvis has then been loosely but fully packed with gauze, the ends of which are brought out through the appendix incision. My object has been to prevent the intestinal loops from dropping down and becoming adherent or kinked in the pelvis. In my hands this procedure has yielded very gratifying results. The loops, although still liable to become adherent, are on a level and are not nearly so prone to become obstructed.

sidering the fact that there was a commencing peritonitis and also considerable edema of the intestinal wall. Eight days after operation, on removal of the last of the gauze, some fecal matter was found on the dressing. The fistula gradually closed, and the patient made an excellent recovery.

February 12, 1904.—The patient has been at work for several months, performing general household duties without the slightest

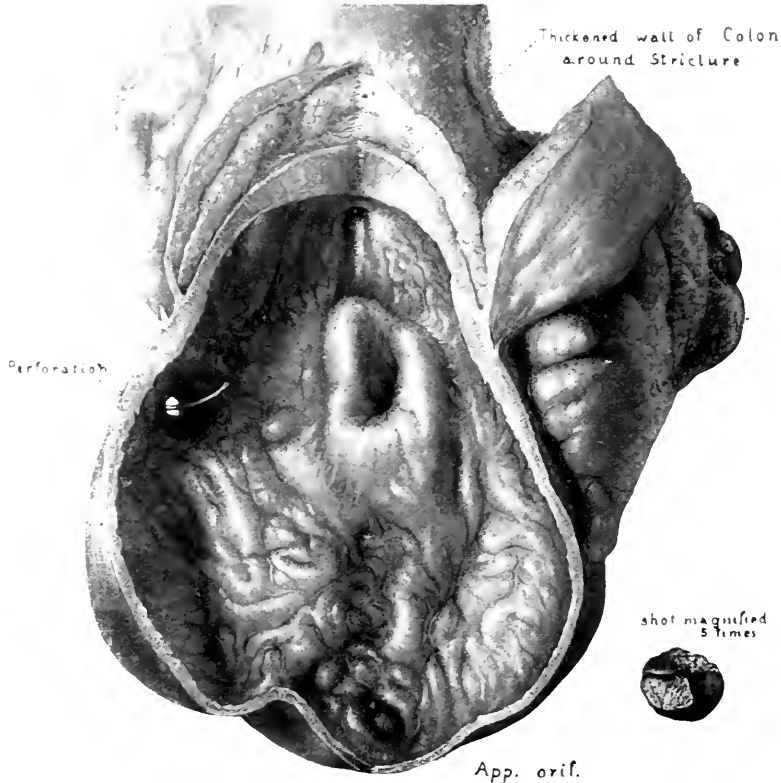


FIGURE V. COMPLETE OBSTRUCTION OF THE ASCENDING COLON WITH PERFORATION ON THE PROXIMAL SIDE OF THE STRICTURE.

The wall of the colon are greatly thickened and the narrowed lumen is completely obstructed by a small bird-shot. Opposite the ileo-cecal valve is the small perforation and at the lower end of the picture the inverted appendix stump is seen.

inconvenience. Her general condition is excellent. From her I learned that she had had typhoid (?) fever six years previously and was in bed for two weeks. For the last year she has had cramp-like pains throughout the abdomen two or three times a month, and recently the bowels have been more constipated than usual. She gives no history whatever of injury or bruising of the abdomen. For about a week before her admission to the hospital

she had had intermittent abdominal pain. From the family history we were unable to get any data suggestive of hereditary tuberculosis.

March 1, 1906. The patient is now in excellent health.

Pathological Report.—Gynecological-Pathological No. 6316.) The specimen consists of a small portion of the ileum, of the cecum, and of about one-half of the ascending colon. The mucosa of the ileum is unaltered, that of the cecum in most places is normal, but at a point directly opposite the ileocecal valve is a perforation 5 mm. in diameter (Fig. 4). The walls of the perforation are rather smooth and the surrounding mucosa, over an area 1 cm. in diameter, is somewhat thickened. The ascending colon, about 5 cm. above the perforation, shows a marked constriction. At this point the lumen narrows down until it is not more than 2 mm. in diameter. Indeed, so small is it that a fine bird-shot would lodge and completely plug the canal at this point (Figs. 5 and 6). The intestinal wall at the point of constriction varies from 5 mm. to 8 mm. in thickness and is exceedingly firm in consistence. The constriction is 1 cm. in length and the ascending colon above this point is unaltered.

Histological Examination.—The appendix, beyond showing a few adhesions on its outer surface, is normal. The cecum in the vicinity of the perforation has entirely lost its glandular elements, the specimen consisting almost entirely of granulation tissue. The underlying muscle shows a varying amount of small round-celled infiltration. This is especially abundant in the vicinity of the peritoneal covering.

Along the margin of the perforation there is also much granulation tissue, and the underlying muscle is everywhere infiltrated by small round cells. The ulceration is evidently an old process, as nowhere is a very acute inflammatory reaction present. The walls of the stricture are, to a great extent, composed of fibrous tissue. Here and there we have some light areas somewhat suggestive of tuberculosis. No giant cells are, however, demonstrable. Several mesenteric glands were removed with the intestine. Some of these reached 1.5 cm. in diameter. On histological examination they show typical tubercles, some sections of which contain four or five giant cells. The tuberculous process in the lymph glands has here and there advanced to caseation.

The following points merit attention in this case:

1. The total absence of definite symptoms until a few hours before operation.
2. The presence of symptoms identical with those of acute appendicitis.
3. Marked contraction of the stricture.

†

4. The advisability of always exploring the right renal pocket in all cases in which there is free purulent fluid in the pelvis.

As seen from the history, the patient had practically no symptoms until about five hours before operation, and then there was moderate pain over the appendix, accompanied by rigidity of the right rectus.

Examination of the blood showed a total absence of eosinophiles. The only way in which we can account for the lack of symptoms is that for some reason there occurred an acute contraction of the stricture, which, up to that time, had permitted the

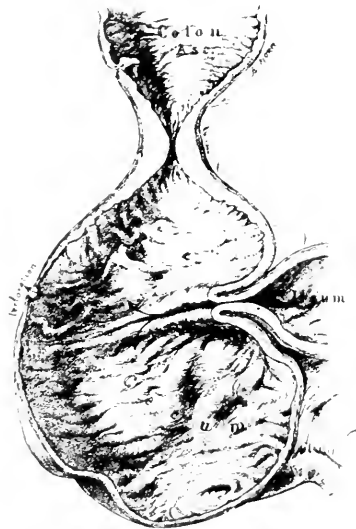


FIGURE VI. TUBERCULOUS STRICTURE OF THE ASCENDING COLON WITH PERFORATION OF THE CECUM.

Directly opposite the ileocecal valve is a small perforation with slightly ragged edges. A short distance above this point the intestinal walls grow thicker and then form an annular constriction. The lumen of the ascending colon at the stricture has been so narrowed that a small bird-shot, when introduced, lodged therein and completely plugged the gut.

free passage of feces. The possible existence of such a condition supplies another indication for early operation whenever trouble exists in the appendiceal region. Already peritonitis had developed, although the symptoms had existed for so short a time; and had we delayed until morning there would have been little chance of saving the patient.

After having removed the appendix and wiped the pus from the pelvis, the abdominal cavity appeared normal, and I probably should not have explored the right renal pocket had I not been familiar with the renal work of Max Broedel, who has shown

clearly that where there is a free accumulation of fluid in the region of the appendix, by gravity it will travel down into the right renal fossa.

I should have preferred a lateral anastomosis, but we were forced to make an end-to-end union on account of tension.

CARCINOMA OF THE SIGMOID FLEXURE.

We have had one uncomplicated carcinoma of the sigmoid flexure. The patient was 53 years of age and, when I saw him, was very weak. He had lost much in weight and toward the last had had copious hemorrhages several times a week. We had no alternative but to make an end-to-end anastomosis. As noted in the history he succumbed on the tenth day, but there was no evidence of peritonitis. He was too weak to stand the strain and developed cardiac depression similar to the attack of a year previous, at which time his life had been despaired of.

Our second case of carcinoma of the sigmoid flexure was accidentally discovered during a hysterectomy for a large myomatous uterus which was firmly wedged in the pelvis. The intestinal obstruction was thought to be caused by the myoma. There had been no symptoms on which one could definitely base a diagnosis of carcinoma. In this case the patient returned after several weeks and died from peritonitis in the right upper abdominal quadrant, a point far removed from the site of the anastomosis. The autopsy also clearly demonstrated that metastases were freely scattered throughout the abdomen, and further that we had not entirely removed the original growth. A more extensive operation would not, however, have been feasible.

Adeno-carcinoma of the sigmoid flexure; resection of the diseased area, end-to-end anastomosis; death on the tenth day.

Dr. A. G. W. This patient has been failing for nearly two years. First he noticed that he was losing in weight, but was able to go around and do his work fairly well. He was very easily fatigued; could not do as much night work as before; had been under treatment for some time with apparently no relief. When I saw him there had been rectal hemorrhages for over a year. On careful palpation we were unable to detect any growth in the abdomen, and on using a short proctoscope could make out nothing. As he continued to lose greatly in strength we sent him to the mountains, deeming that he could not stand an operation. He improved slightly, but soon again lost ground as a result of the frequent hemorrhages. Finally he was admitted to the hospital, and we decided to make an exploratory operation, remembering, however, that his heart a year previous had given rise to

such alarming symptoms that it was thought he would succumb. After entrance the patient improved slightly, but the hemorrhages continued.

Sept. 22, 1904. We made a median incision and examined the appendix. This we found twice its natural size and partly filled with fecal matter. It was removed. We then carefully examined the intestines and found hard masses throughout the transverse colon. These proved to be fecal concretions. In the pelvis was a hard mass which on pressure proved to be a malignant growth involving the bowel just below the brim. No glandular enlargement could be detected, but here and there fine white lines—evidently dilated lymphatics—were seen passing down the meso-sigmoid. We carefully walled off the abdominal cavity and also the abdominal incision, clamped above and below the growth, and after removing the growth did an end-to-end anastomosis with a Connell suture for three-fourths the circumference of the bowel. The remaining portion was closed in with mattress sutures. Posteriorly the lower portion of the sigmoid on the right was rather thin and there was just the faintest possibility that there might be a subsequent leakage. Everything, however, looked perfectly solid. On account of the fecal concretions, we brought up a loop of the descending colon into the left inguinal region. This loop was opened the same night.

Sept. 29.—The patient since operation has had a practically normal temperature, but on one or two occasions it ran up to 100° F. His pulse has been fairly good. During the entire time there has been a good deal of nausea, but no vomiting. He has had an ice bag over his stomach, which has been exceedingly sensitive. At no time has there been any distension. The bowels moved thoroughly after calomel and magnesia. This morning at 12.30 he woke up in a profuse perspiration. His pulse was almost imperceptible, although an hour before he had been in excellent condition. I examined him between two and three o'clock. The pulse was not demonstrable either in the facial or in the radial region. He was given strychnin and digitalis. He soon lost consciousness, was very restless, and died at 4 a.m. We had here a definite cardiac syncope. He retained his nourishment from the beginning. It may be noted that a year ago he had a similar attack, and on that occasion his heart's action became so weak that he was not expected to rally.

Gyn.-Path. No. 7786. The specimen consists of six inches of sigmoid flexure (Fig. 7). Outer surface of bowel looks fairly normal except for a slight bulging. On palpation it is found to be very firm and gristle-like. On examination two distinct and separate growths can be detected. One is 4 cm. in diameter, the other 5 cm. Each one has raised edges and is sharply circum-

scribed. The growth extends on an average about 5 mm. from the surface, but in some places projects at least a centimetre into the cavity. While the edges are markedly raised the central portions present depressions. The growths are rather porous in

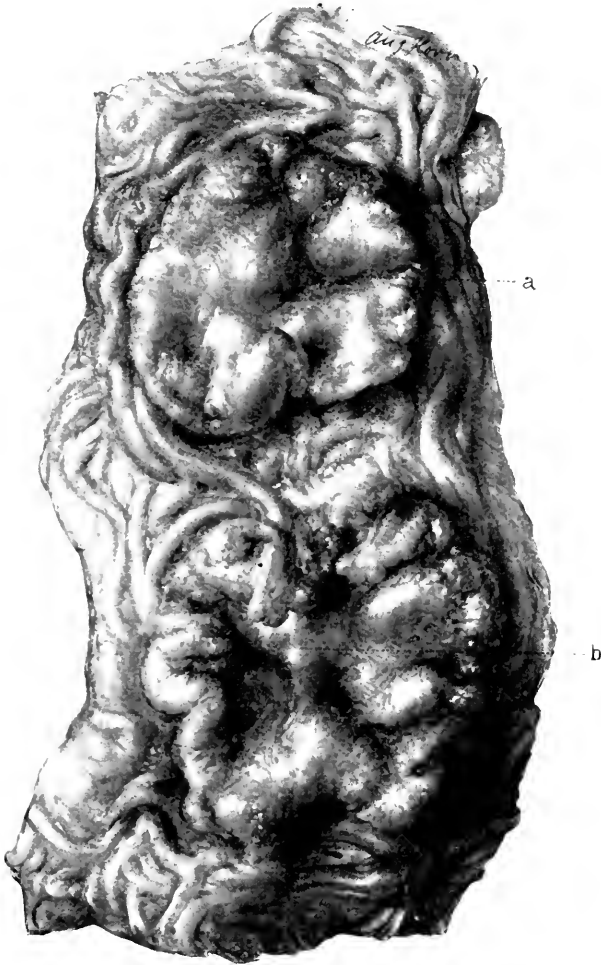


FIGURE VII.—CARCINOMA OF THE SIGMOID FLEXURE.

Path. No. 7786. The specimen shows two distinct foci of carcinoma. *a* and *b* each has a depression in the centre with wavy elevated margins sharply circumscribed from the surrounding healthy bowel. They are separated from one another by an interval of at least 1 cm. of healthy mucosa.

appearance. The surrounding mucosa looks perfectly normal. Sections through the growths show that they are typical adenocarcinomata. All resemblance to the bowel mucosa has, however, entirely disappeared. The growths show irregular invasion of

the submucosa and of the muscular layer of the bowel. There is considerable small round-celled infiltration.

Diagnosis.—Adeno-carcinoma of the sigmoid flexure.

Acute intestinal obstruction; large myoma wedged in the pelvis; non-suspected adeno-carcinoma of the sigmoid flexure; hysterectomy; resection of the diseased bowel; end-to-end anastomosis. Temporary recovery.

Gyn. No. 12000. E. S., colored, aged 40. Admitted to the Johns Hopkins Hospital, March 26, 1905; discharged, June 9. I saw this patient in consultation with Dr. Clement A. Penrose. On admission she was suffering from intestinal obstruction. This was thought to be caused by a myoma which had been known to exist for fifteen years. The family and previous history was negative. The menses began at 16, were always regular, and caused a great deal of pain; the flow was excessive. Twelve years ago she had a severe attack of abdominal pain. This was sharp and shooting in character, but there was no intestinal obstruction. For the past six weeks, beginning at the time of a menstrual period, she again noticed sharp, shooting pains in the abdomen. These were intermittent and practically limited to the left side. The bowels have not moved for several days, and the pains have been spasmodic, occurring at intervals of four to five minutes. She does not think that she has had any fever. There had been no blood in the stools before the obstruction. On the morning of her admission she vomited a small amount. On admission the lower abdomen was found distended by a mass. The tumor reached as high as the umbilicus on the left side, presenting a large nodule which pressed down in the left iliac fossa. A similar and smaller nodule was present in the right iliac fossa. Around the umbilicus peristaltic movements were marked, and were accompanied by loud gurgling in the intestines. Tympany was marked everywhere except just over the nodules and above the symphysis. The abdomen was opened at once. A myomatous uterus was found reaching as high as the umbilicus. Springing from the region of the right cornu was a pedunculated tumor about 10 cm. in diameter. There were no adhesions above and the appendages appeared to be normal. As the tumor was free above, but could not be easily lifted, we suspected an intra-ligamentary growth or inflammatory adhesions in the pelvis. The round ligaments on both sides were tied and the ovarian vessels controlled. The enucleation was begun from left to right. The uterus was amputated through the cervix, but its removal was accomplished with a great deal of difficulty owing to the broad cervical attachment.

After removal of the uterus the rectum was found to contain

a growth which seemed to be malignant in character and was adherent to the cervix posteriorly (Fig. 8). The rectal tumor was loosened as carefully as possible from the cervix; it lay entirely below the brim of the pelvis. There was a nodule apparently about 7 cm. in diameter and the intestines for a length of 8 cm. were involved. The general peritoneal cavity was again carefully walled off and the bowel clamped above and below the diseased area. After removal of the growth an end-to-end anastomosis was done. Three-fourths of the bowel was closed by

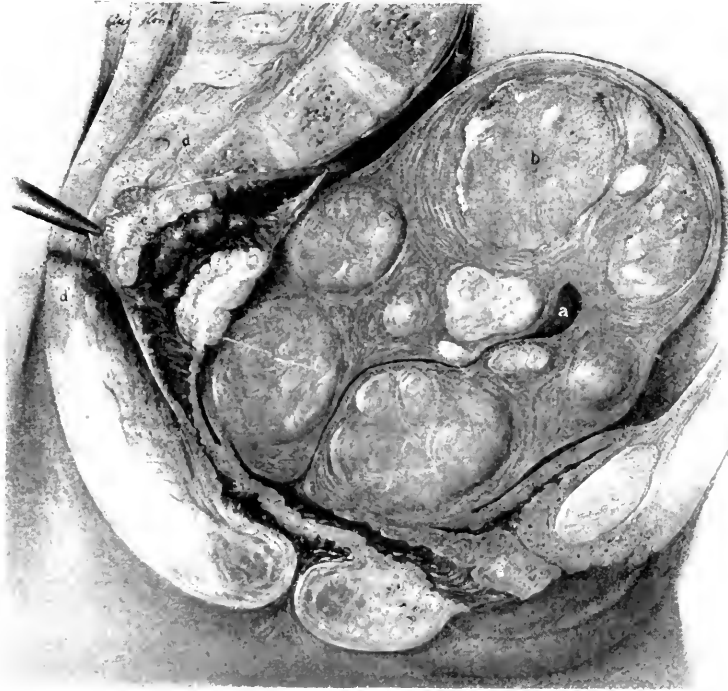


FIGURE VIII. BROAD BASED MYOMATOUS UTERUS FILLING THE PELVIS
CARCINOMA OF THE SIGMOID FLEXURE.

The multi-nodular uterus is very broad-based, rendering the hysterectomy difficult. *a* indicates the uterine cavity. The myoma *b* contained many cancerous areas. Occupying the sigmoid flexure is the carcinoma *c*. This almost completely occluded the bowel. Its upper limits are indicated by *d*, its lower by *d*.

Connell sutures, the remaining one-fourth by mattress sutures. The entire suture line was reinforced by continuous sutures. The posterior vaginal fornix was punctured and the pelvis packed with one strip of iodoform gauze. The anastomosis was very satisfactory and the condition of the bowel good. The growth was very low down, thus rendering anastomosis difficult. It was, however, too high up to permit removal through the anus. In order

to give the anastomosis a complete rest a left inguinal colostomy was done, the descending colon being sutured to the peritoneum and opened later on in the evening. As we found it very difficult to get a good exposure for the anastomosis we incised the abdominal wall trans-versely, making an incision three inches long extending through the left rectus. We were thus enabled to greatly facilitate the operation and save much time. The liver and the omentum were free from nodules. The patient was returned to the ward in a very weak state, but in fairly good condition considering the severity of the operation. Her temperature at that time was 101.5° F. For several days after operation the patient was very restless and it was difficult to keep her quiet. She was continually trying to remove the binder. She gradually improved, however, and on May 13th an attempt was made to close the fecal fistula. In this, however, we were not successful, as when she left the hospital, on June 9, there was still a slight fecal discharge from the fistulous tract. She seemed to be in very good condition. The bowels moved well; there was little pain, but some tenderness over the region of the anastomosis. She was gaining in weight and strength.

Gyn.-Path., No. 8447. E. S. The specimen consists of a large myomatous uterus, of both tubes and ovaries and of a portion of the sigmoid flexure. The myomatous uterus has been amputated through the cervix. It is 16 cm. in length, 12 cm. in breadth and 11 cm. in its antero-posterior diameter. Attached to the surface are several interstitial and one pedunculated myomata. The pedunculated nodule is rough, oblong in shape, 7 cm. in its longest diameter. The undercut surface is 10 cm. in diameter (which would account for the difficulty encountered in the enucleation). On section many myomata are seen scattered throughout the walls.

Our chief interest is centred in the section of the sigmoid flexure. This is 9 cm. in length. The outer covering of the bowel looks fairly normal except for some slight whitish elevations. Occupying the entire thickness of the bowel near the centre is a hard, light-colored growth (Fig. 8). This is 4 cm. in length and extends throughout the entire thickness of the bowel. The growth itself with the indurated adipose tissue surrounding it is fully 3 cm. in thickness.

Histological examination shows in some places perfectly normal mucosa surrounded on either side by colonies of small glands. In some of these colonies the epithelium is so proliferated that the gland arrangement is lost. The epithelial cells of the new growth are much smaller than those of the normal epithelium. They stain more deeply and some of them are rather large. On the whole, however, they are of uniform size. The muscular coat is involved and here the nests of cells are much denser. They are,

however, in many places surrounded by fibrillated tissue that takes the hemotoxylin stain and resembles mucin. The growth has extended to the outer surface of the bowel, but the chief thickening here is due to new connective-tissue formation in the fat.

The picture is one of typical adeno-carcinoma of the rectum.

Gyn. No. 12204. The patient was again admitted on June 24, 1905. At the seat of the former colostomy was a small sinus just admitting a probe. There had been no fecal discharge from this for several days. Until a week previously she had been in good condition. The bowels became constipated, there were frequent attacks of pain in the abdomen and during the last seven days there had been no movement. For the last two or three days the pains had increased in severity, but there had been no vomiting. Her temperature and pulse were normal. The abdomen was slightly distended. No peristaltic movements were visible. Enemata were ineffectual.

On June 25 the bowels moved spontaneously. On June 27 considerable vomiting occurred and distension was noted; there was great tenderness on palpation in the right upper quadrant. On June 28 enemata were given and there was some fecal discharge through the wound. The distension, however, continued and the vomiting persisted. On July 3 patient was taken to the operating room, as the condition had become alarming. No operation, however, was performed. She died the same day.

Autopsy No. 2558. Autopsy July 4, 1905, by Dr. W. Francis. Anatomical diagnosis. Old abdominal operation wound, hysterectomy and resection of the sigmoid for carcinoma, anastomosis of the colon, recurrence of carcinoma in anastomosis with stricture of the lumen, metastases in the peritoneum, small fecal fistula in the left inguinal region communicating with the descending colon. Fibrino-purulent peritonitis, source not determined. Atelectasis in the lower lobes of both lungs.

There is a small opening in the left inguinal region. The abdomen is slightly distended and on opening it a quantity of foul gas escapes. In the right upper quadrant in the region of the liver and extending over to the left upper quadrant is a little fibrino-purulent peritonitis. Large masses of fibrin cover the intestinal walls, surface of the liver, etc. This is walled off above the umbilicus by recent adhesions. Elsewhere about the abdomen there are adhesions which for the most part can be broken down. At the seat of the operation wound the structures are closely adherent to the abdominal wall. The intestines are everywhere bound down by adhesions which are of three varieties, fibrinous, fibrous, and nodular. In other places throughout the small intestines adherent coils are found to be strongly bound together,

but there are also localized small areas of adhesions consisting of round, hard nodules varying in size from a pea to a walnut and on examination consisting of dense, hard, more or less fibrous tissue studded with yellowish, opaque points. These new growths in many places project into the lumen, but in no way seem to have destroyed the mucosa. The nodules of new growth in the peritoneum are few in number, but each is apparently of considerable size. Except for these points the peritoneum seems to be free from new growth. The lower nine inches of the colon were removed three months previous to the autopsy and an end-to-end anastomosis was made between the colon and the rectum. This line of junction runs behind the stump of the cervix uteri. The lumen of the bowel at this point is greatly contracted, admitting only the tip of the little finger. On section through this line of junction, it is found to consist of dense fibrous tissue with very fine, yellowish, opaque points through it. The mucosa of the rectum is injected. The source of the peritonitis in the right upper quadrant is not determined. The appendix is perfectly normal. The vagina and the stump of the cervix appear normal, but the scar tissue around the cervix and along the line of the peritoneum is suggestive of a new growth. There is a large amount of carcinomatous-looking tissue between the cervix and the rectum.

On histological examination sections from the region of the anastomosis show normal mucosa and a thickened muscular coat. There is a thick mass of fibrous tissue with carcinomatous alveoli scattered throughout it. These show the type of the original tumor. The growth is a typical adeno-carcinoma. Sections from the large fibrous nodules in the peritoneum which bound the intestines together at several points show that they also consist of fibrous tissue with abundant areas of adeno-carcinoma scattered throughout them.

The mesentery consists chiefly of fat. It also shows alveoli. Sections from the scar tissue in the region of the intestinal anastomoses also contain masses of cancer cells. The original growth was evidently not entirely removed, and there had also been metastases before the operation was undertaken.

CARCINOMA OF THE RECTUM, SECONDARY TO A PRIMARY GROWTH IN THE RIGHT FALLOPIAN TUBE.

This case is of interest on account of the extent of the operation. Complete removal of the uterus by Wertheim's method is usually sufficiently severe to tax the patient's strength without any attempt to remove a large segment of the bowel. In this case the rectum was fortunately very lax, and after freeing it without in

any way disturbing the blood supply, we were able to do an exaggerated Whitehead operation, bringing down and cutting off the necessary amount of bowel, while still preserving the sphincter. Although in the end a hopeless case the patient was absolutely relieved of the distressing bowel symptoms, and to the day of her death, months later, never suffered from the slightest intestinal obstruction.

*Primary carcinoma of the right Fallopian tube (Fig. 9) with secondary involvement of the uterus, both ovaries, pelvic peritoneum, omentum, and rectum. Removal of omentum, uterus and appendages, one-third of the pelvic peritoneum, and six inches of the bowel. The patient was comfortable and considered herself well, five months after operation. The respite was, of course, only temporary.*²

Mrs. Z. was seen in consultation with Dr. J. Milton Linthicum, Jan. 5, 1905. The patient was 55 years of age. She was sparely built, fairly well nourished, but slightly anemic. For months she had had some hemorrhage from the uterus and later great pain on defecation; in fact, her discomfort had been so great that she said she could not endure it much longer. On examination, under anesthesia, I found the uterus slightly enlarged and on the right side a firm mass about 6 cm. in diameter. I thought it to be a myoma.

Jan. 7. On opening the abdomen I found the omentum everywhere studded with nodules, some of them being very small, others 1 cm. or more in diameter, and umbilicated. I questioned the advisability of operating, but Dr. Linthicum thought it wiser to operate, as the patient said "she would rather die than go through the torture that she had been experiencing for several weeks." The omentum was separated close to the transverse colon, as in the vicinity of the colon no metastases were to be found. The right tube was much enlarged and apparently involved in a malignant growth. It was attached to the pelvic floor and the peritoneum at this point, over an area fully 5 by 6 cm., was involved in the process. On the right side the ureter ran directly beneath the thickened peritoneum. On the left side the ovary, although small, was glued down to the pelvic floor directly over the ureter. Posteriorly the uterus was firmly attached to the rectum. It was found necessary to carefully dissect out the ureters first, as it was evident that much of the pelvic peritoneum must be removed. The hysterectomy was carried out practically along the lines laid down by Wertheim's operation. Fully one-third of the pelvic peritoneum, however, was removed. I had hoped to remove part of the rectum with the uterus in one piece,

²From the *Johns Hopkins Hospital Bulletin*, Vol. XVI, No. 177, December, 1905.

but found that it was impossible. Consequently it was necessary to separate the uterus from the rectal growth. The rectum was freed on all sides, care being taken, however, not to interfere with the blood supply. The patient was then placed in the perineal position and the skin separated from the rectal mucosa, just as is done in a Whitehead operation. Six inches of the rectum were drawn down through the sphincter and cut off and the upper edge of the rectum was sutured to the skin. The ureters were covered over as far as possible with the remaining peritoneum. A medium-sized gauze drain was introduced into the pelvis and brought out through the vagina. The entire operation took a little more than three hours. The patient had a very feeble pulse when she left the table, which was not surprising, as she was in a weak condition at the commencement of the operation.

Jan. 8.—The patient is improving greatly. Her pulse is 126, temperature normal, respirations about 30. This evening there has been considerable vomiting. Sixteen ounces of water were ordered with the hope of washing the stomach out. She vomited four ounces, fortunately retaining the twelve. There have only been about 70 c.c. of urine in twenty-four hours, but the general condition does not seem to indicate any uremia.

Feb. 1.—The patient has steadily improved since operation. There has been a great deal of discharge from the pelvis, but that is rapidly diminishing. She occasionally has a temperature of 101° F. The sphincter action at first was rather tardy, but is now much better.

March 1.—The patient is up and around and suffering little or no discomfort. Of course, a complete recovery is out of the question. The operation was performed merely to relieve her intense suffering.

Subsequent History.—During the spring and part of the summer she was free from pain, journeyed to distant points, and looked very well. About the middle of August she became rather weak; after seven days' rest in bed she suddenly grew worse and died in half an hour. From the symptoms it is possible that death was due to embolism. The operation relieved her of great suffering and gave her over six months of comparative comfort.

Gyn.-Path. No. 8114. The specimen comprises the uterus and enlarged right tube, both ovaries, the small left tube, and a cuff of pelvic peritoneum, the greater part of the omentum, and several inches of the rectum.

The uterus has been removed entirely. It is 7 by 5 by 3.5 cm. and is covered with numerous adhesions. The uterine cavity is of the normal size. The mucosa is thinner than usual and shows nothing of interest.

The right tube at the uterus is 3 mm. in diameter. After passing outward 1.5 cm. it suddenly increases in size, reaching a diameter of 1.8 cm. It gradually increases until near the fimbriated extremity it is 4 cm. in diameter. The entire length of the tube is approximately 12 cm. It is for the most part smooth, but at two points on its inner aspect the muscular coats have given way and we have hernial spaces .8 by 1.8 cm. in diameter covered only by peritoneum (Fig. 9). The under sur-

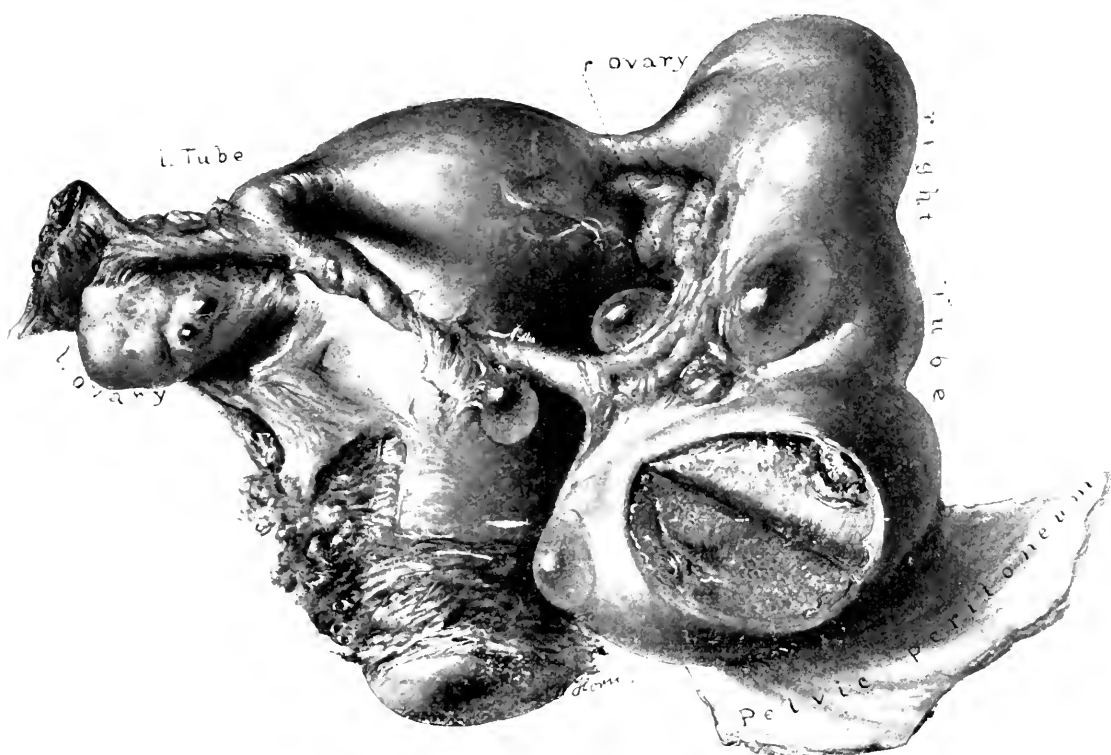


FIGURE IX.—PRIMARY CARCINOMA OF THE RIGHT TUBE.

face of the extremity of the tube is roughened where it has been attached to the peritoneum of the pelvic floor. The tube was not opened until hardened. Sections near the uterus show that the lumen is fully 1 cm. in diameter, and that it is filled with a friable, porous, granular-looking growth which is free on the under side, but intimately blends with the upper or convex side of the tube. Sections near the outer end of the tube show that the walls are not over 1 mm. in thickness. Here also the tube lumen is filled with a similar friable growth which is whitish

yellow or mottled, evidently as a result of old hemorrhages. The tube itself is nearly as large as the uterus.

The left tube is about 5 cm. in length, is slightly beaded, and varies from 3 to 5 mm. in diameter. The fimbriated end is patent and the tube has grown fast to the lower and outer end of the right tube. The right ovary is very small, is approximately 1.5 by 1 by 1 cm. The left ovary is also atrophic, being 2 by 1.5 by .6 cm. Attached to the right side of the cervix is an irregular area of peritoneum which was approximately 7 by 6 cm. The central portion of this is hard and indurated, the outlying portions are smooth.

The rectum is atrophied to a considerable extent. The length of the portion removed, in its fresh state, is about six inches. The rectal mucosa is smooth and apparently normal. The constriction was due to infiltration of the adipose tissue surrounding the rectum. The nodules in the omentum, as noted in the clinical description, are firm. Some of them measure fully 3 cm. in length.

Histological Examination.—Sections from the uterus show that the surface epithelium is intact. The glands are normal. At numerous points the muscle is becoming active and growing up into the stroma of the mucosa. It shows us fairly well how an adeno-myoma may develop from an in-growth of the muscle fibres.

Sections from the tube near the uterus show that springing from the upper wall of the tube is a new growth, as indicated in the gross description. The lower part of the tube is free. Projecting from the side of the tube where the lumen is free are little finger-like outgrowths covered by a single layer of delicate epithelium. The nuclei are oval and vesicular. Some of the nuclei stain very deeply and are rather increased in size. They immediately remind one of a malignant growth. Springing from the wall of the tube and filling almost the entire cavity is a papillary growth. The stroma of the out-growth consists of spindle-shaped connective tissue cells. The epithelial covering is one or many layers in thickness. In numerous places the epithelial covering has greatly proliferated, and we have solid masses of cells many layers thick. Here also there are large and deeply staining nuclei. In the deeper portion of the growth the connective tissue predominates and we have solid nests of cells. The epithelium tends to retract from the connective tissue. At numerous points large areas of the growth have undergone coagulation necrosis and we have fragmentation of the nuclei. The outer muscular wall in most places is still preserved. At some points, however, the entire thickness of the tube has been involved by the growth. Sections from the outer portion of the tube yield practically the

same picture. The papillary arrangement is particularly well marked and many of the nuclei are spindle-shaped or irregular, very large and deeply staining. In some sections fully three-fourths of the field have undergone coagulation necrosis. In such areas only a few of the cells around the larger blood vessels still retain their vitality. Scattered throughout the muscular walls of the tube are definite masses of growth chiefly in the form of cell nests or penetrating glands and on the outer surface of the tube are little bunches of new growths. We have undoubtedly a primary carcinoma of the Fallopian tube with a penetration of the entire tubal wall at numerous points.

Sections from the right ovary, which was very small, show that the organ in some places is normal, but at many points it has been penetrated by masses of carcinoma which send out branches in all directions. The cells present exactly the same characteristics and are manifest in the depth as well as on the surface. Here also there is some breaking down. The left tube near the uterus is practically normal. The left ovary, although also very small, shows diffuse infiltration by the growth. The structure is recognized as that of typical carcinomatous glands or as isolated, large, irregular cells with irregular and deeply staining nuclei; in fact the ovary is riddled by the growth.

Sections from the omentum show a most typical picture. In such areas the fat of the omentum is to a great extent replaced by young and old connective tissue, and lying in the connective tissue are masses of epithelial cells, very solid, with a definite glandular-like arrangement. The same large, deeply staining and irregular nuclei are also here in evidence. The nuclear figures are particularly well formed. We find considerable hemorrhage and also breaking down of the carcinomatous elements. The only extension to the rectum is by continuity from the outer surface. The rectal mucosa has not been involved.

Diagnosis.—Primary carcinoma of the right Fallopian tube with extension to the peritoneum of the pelvic floor, to both ovaries, and also to the rectum by continuity, general pelvic adhesions; extensive metastases into the omentum.

For a further discussion of the various forms of cancer of the tube, we would refer the reader to Dr. Elizabeth Hurdon's article, published in the *Johns Hopkins Hospital Bulletin*, Vol. XII., p. 315, 1901, and to the recent article by G. J. Tomson, published in *La Gynécologie* in February, 1905.

RECTAL DIVERTICULA.

Rectal diverticula are not common. They are usually encountered at autopsy, but rarely detected during life. Had it not been for the perforation of two of these with subsequent develop-

ment of an abscess between the indurated bowel and the uterus, the surgeon's aid would hardly have been required. As noted in the pathological report the greater part of the tumor is made up of indurated fat surrounding the diverticula. Had no microscopic examination been made this would have been classed as a brilliant and permanent recovery after removal of carcinoma of the rectum.

Operations on the sigmoid or lower rectum are much more easily handled in women than in men, as we can so readily drain through the vagina if need be. Gauze coming in contact with the point of anastomosis is, however, very prone to cause suppuration and then leakage from the bowel.

As the contents of the lower bowel are solid and usually rather hard, we have erred on the safe side and in each case brought out a loop of the descending colon and attached it to the skin, being prepared to open the bowel with the cautery if the slightest unfavorable symptoms should present themselves.

Diagnosis.—*Pelvic abscess, with retroverted myomatous uterus. Actual condition: Rectal diverticula, with rupture into the surrounding rectal fat, producing a definite tumor. Small abscess between the tumor and the pelvic floor** (Fig. 10).

History.—This patient was seen early in February, 1904, in consultation with Dr. S. T. Haffner. She was 60 years of age. For some time she had experienced slight difficulty in defecation, and for a few days had been running a temperature varying from 100 to 103° F.

Examination.—On vaginal examination, I found the uterus somewhat enlarged. Posterior to it, and apparently continuous with it, was a globular mass. This was very hard and resembled a myoma in contour. There was, however, a hard ridge over its lower portion, as is so often noted where pelvic abscess exists.

Operation.—On February 13 I made a small incision in the vaginal vault just posterior to the cervix, and after peeling back the mucosa entered Douglas' pouch with a pair of blunt artery forceps. A very small amount of pus and a few flakes of fibrin escaped, but the mass was in no way diminished in size. Realizing the presence of an unusual condition, I packed the opening in the vault and immediately entered the abdomen from above. Filling Douglas' sac almost completely was a tumor mass evidently springing from the sigmoid flexure, which had rotated 90 deg. and had become firmly embedded in the pelvis. It closely resembled a rectal cancer. On careful manipulation it was brought out of the pelvis, and on inspection no lymph glands were demonstrable. The diseased segment of gut was removed and an

* Reprinted from the *Journal of the American Medical Association*, November 1, 1904.

end-to-end anastomosis done with Connell and Lambert sutures, the former being employed at the mesenteric junction and for about two-thirds the circumference of the gut. A portion of the descending colon was brought up into a small incision in the left inguinal region and made fast, so that if occasion demanded it



FIGURE X.—DIVERTICULA OF RECTUM WITH ABSCESS BETWEEN BOWEL AND UTERUS.

could be opened with a thermo-cautery at a moment's notice. Drains were then introduced into the vagina and also through the lower angle of the abdominal incision. At the end of the fourth day there was considerable abdominal distension and the patient was very weak. We accordingly opened the descending colon at its point of attachment to the abdominal wall and at the same time forced the patient's nourishment. She promptly recov-

ered. The small fistulous opening was a few weeks later readily closed under local anesthesia, and the patient is now (March 1, 1906) perfectly well.

Examination of Tumor.—On laying the tumor open we found that there were two rectal diverticula passing out into the adipose tissues, and communicating with the lumen of the gut by openings not more than 1 mm. in diameter (Fig. 10). The larger diverticulum was 1 cm. in diameter and filled with a fecal mass. The floor of this diverticulum had given way, and the surrounding fat was everywhere infiltrated by inflammatory products. The excessive hardness of the tumor was due to replacement of the fat in many places by recent connective tissue. The small abscess between the tumor and the pelvic floor was due to the extension of the inflammatory process to the peritoneum of Douglas' pouch. The diverticula were lined by atrophic mucosa.

A rectal examination of this case would have yielded little information beyond the detection of some narrowing of the lumen of the bowel, which is often present in cases of pelvic abscess. In this case cancer of the bowel might very readily have been diagnosed and a colostomy performed.



MR. GEORGE COOPER FRANKLIN, F.R.C.S., LEICESTER, ENGLAND,
Retiring President of the British Medical Association.

**THE BRITISH MEDICAL ASSOCIATION—TORONTO
MEETING, AUGUST 21-25, 1906.**

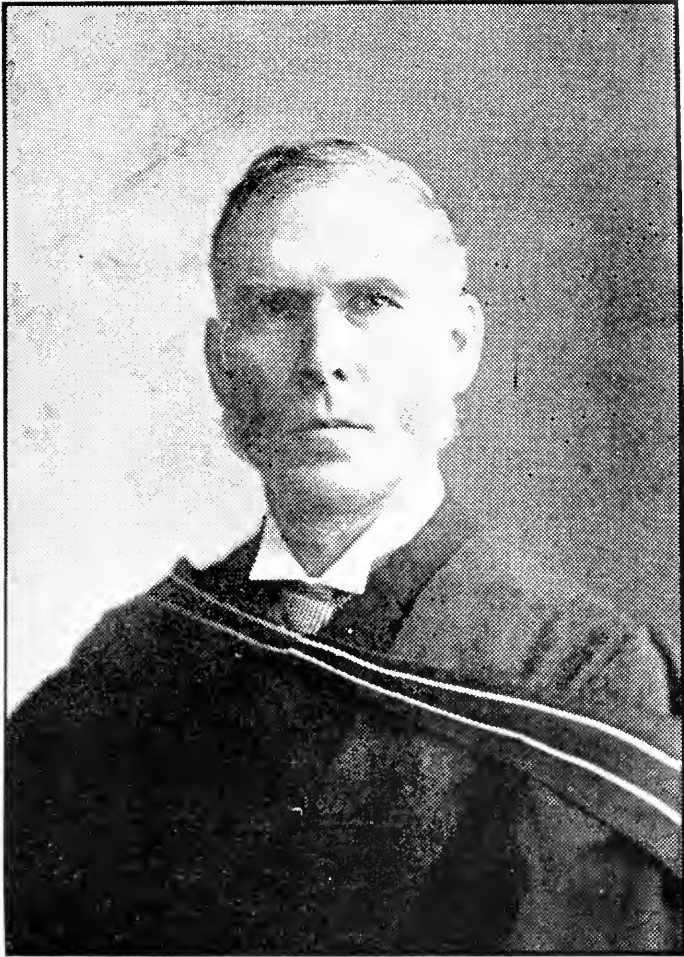
CONSIDERABLE progress has been made with the arrangements for that notable event, the meeting of the British Medical Association in this city in the closing part of August. From the inquiries that are being received from every part of the continent, as well as from the British Isles, it is evident that a very large attendance will be recorded at this meeting. Over 200 members resident in the British Isles have already asked for accommodation, and in many cases they will be accompanied by members of their families. The Association will be convened under thirteen sections, which will meet daily from 9.30 to 1 o'clock. The afternoons and evenings will be devoted to general meetings, public addresses and various entertainments. There will be three public addresses delivered. Sir James Barr will present the address in Medicine, his topic being, "The Circulation Viewed from the Peripheral Standpoint." Dr. W. S. A. Griffith will deliver the address in Obstetrics, Sir Victor Horsley the address in Surgery, "The Technique of Operations on the Central Nervous System," and it is just possible that a public address will be delivered by Dr. Marie, of Paris. It is intended that clinics shall be held each morning at 8.30, when interesting cases will be reviewed by some of the prominent physicians and surgeons in attendance. Considerable advance has already been made in arranging for the work of the sections.

Anatomy.—The section of Anatomy will be under the presidency of Dr. Arthur Robinson, of Birmingham. Papers have been promised by the following: Dr. C. R. Bardeen, University of Wisconsin, Madison, Wis.; Prof. G. C. Huber, University of Michigan, Ann Arbor, Mich.; Prof. J. P. McMurrich, University of Michigan, Ann Arbor, Mich.; Dr. Ross E. Harrison, Johns Hopkins, Baltimore, Md.; Dr. H. Knower, Johns Hopkins, Baltimore, Md.; Dr. G. L. Streeter, Johns Hopkins, Baltimore, Md.

It is also possible that Prof. Mall, of Johns Hopkins, Baltimore; Prof. C. S. Minot, Harvard Medical School, Boston; Dr. E. A. Spitzka, New York, and Dr. R. R. Bensley, of Chicago, may communicate papers.

Laryngology and Otology.—The section of Laryngology and Otology will be under the presidency of Dr. J. Dundas Grant, of London, and will have three or four principal topics for discussion:

1. "Operations for the Correction of Deviations of the



DR. R. A. REEVE, TORONTO,
President-Elect of the British Medical Association.

Nasal Septum." (Discussion to be opened by Dr. St. Clair Thompson, of London.)

2. "Laryngeal Disturbances Produced by Voice Use."

3. "The Indication for Ligation of the Jugular Vein in Otitic Pyemia."

4. "The Diagnosis and Treatment of Ethmoidal Disease."

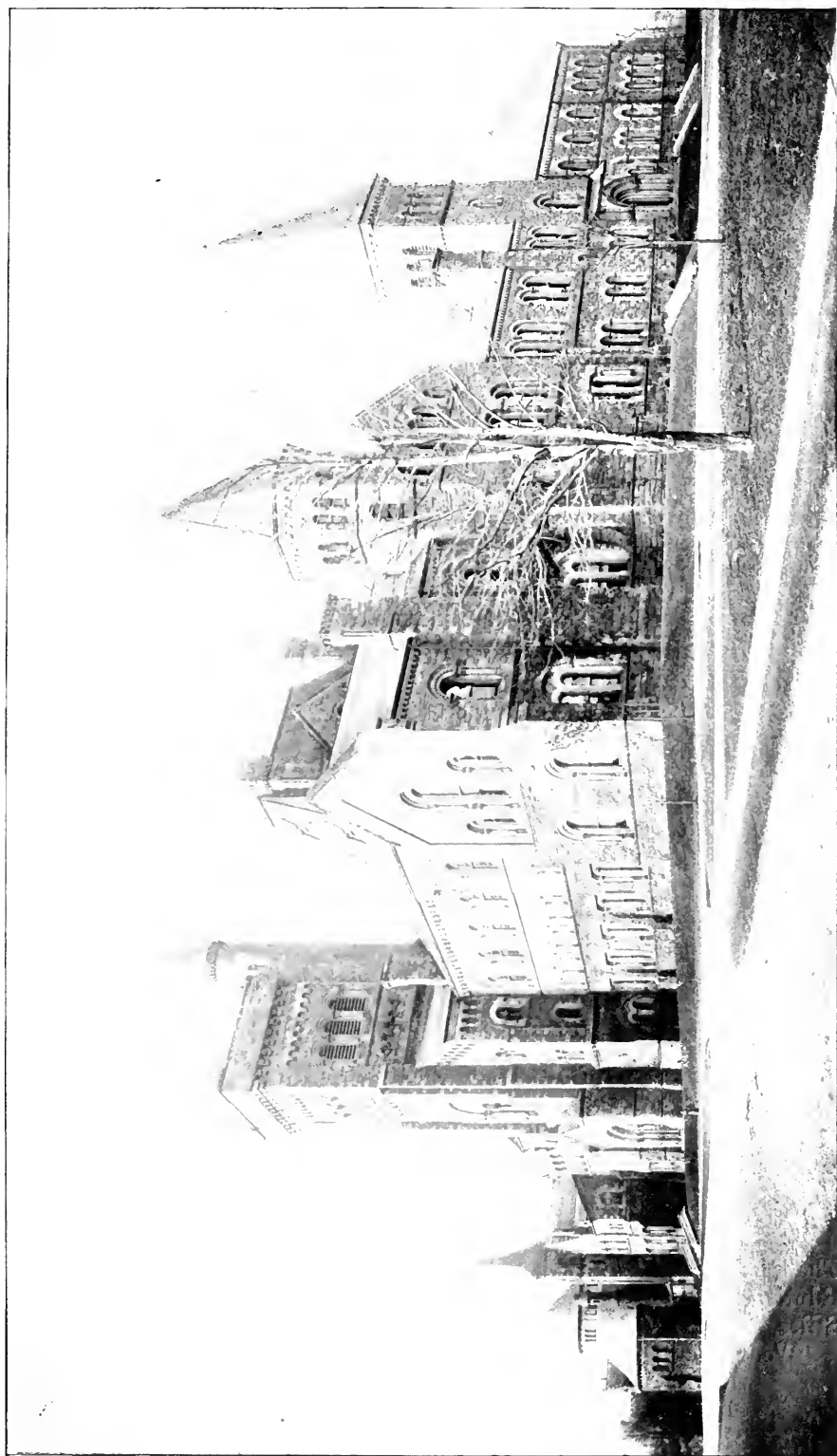
Each discussion will occupy about two and a half hours, the remainder of the day being devoted to papers. It is just possible that Dr. Logan Turner will open the discussion on "Ethmoidal Disease."



DR. ALEXANDER MCPHEDRAN, TORONTO,
President Canadian Medical Association.

Medicine.—Tuesday, Aug. 21st: "Blood Pressure in Its Relation to Disease." (a) Physiological Introduction (Dawson, of Baltimore). (b) Clinical Methods of Determining Blood Pressure: Their Uses and Limitations (Geo. Gibson, Edinburgh). (c) Pathology and Therapeutics of Blood Pressure (Sir Wm. Broadbent). Also possibly a paper on the subject by Clifford Allbutt, and one or two others, including one Canadian.

Wednesday, Aug. 22nd: Discussion in junction with the section of Physiology upon "Over and Under Nutrition, with



THE UNIVERSITY OF TORONTO (FROM THE SOUTH-EAST).
The Meeting Place of the British Medical Association, August 4, 1906.

The Canadian Journal of Medicine and Surgery.

Special Reference to Proteid Metabolism." Introduced by Christtenden. Other special speakers: Herter, Starling, Hutchison, Francis Hare, A. Haig, and others.

Thursday, Aug. 23rd: Papers from William Osler, J. MacKenzie, and Erlanger on "Heart Block." Other papers: L. E. Barker, A. Stengel, A. McPhedran.

Friday, Aug. 24th: Papers devoted to neurological subjects. W. G. Spiller, "Syringomyelia." J. J. Putman.

The following gentlemen have signified their intention to contribute to the section: Dr. J. J. Putman, Boston, Mass.; Dr. W. G. Spiller, Philadelphia, Pa.; Dr. Alfred Stengel, Philadelphia, Pa.; Dr. Barber, Baltimore, Md.

Obstetrics and Gynecology.—The section of Obstetrics and Gynecology is under the presidency of Dr. A. H. Freeland Barbour, of Edinburgh. The following is the programme suggested.

Tuesday—Discussion on "Hyperemesis Gravidarum." Opened by Dr. J. C. Cameron, of Montreal.

Wednesday—"The Changes in Uterine Fibroids after the Menopause, with Special Reference to Operations."

Thursday—Subject for discussion and opener to be selected by Dr. Barbour.

Papers—"Uterine Myomata and Their Degenerative Changes," T. S. Cullen; "Sectional Anatomy of Labor" (lantern demonstration), A. H. F. Barbour; "Condition of Ovaries in Normal and Abnormal Pregnancy," C. Lockyer (lantern demonstration).

Surgery.—The section of Surgery is under the presidency of Sir Hector Clare Cameron, M.D., Glasgow. The following is the programme suggested:

Tuesday—"Enucleation of the Prostate Gland." Reader, Dr. Bingham, Toronto.

Wednesday—"Treatment of Ascites Secondary to Chronic Hepatitis."

Thursday—"Surgical Treatment of Ulcer of the Duodenum." Reader, Dr. W. J. Mayo, Rochester, Minn.

Friday—"Treatment of Acute Septic Peritonitis."

Pediatrics.—The section of Pediatrics is under the presidency of George A. Sutherland, M.D., London. The following is the programme suggested:

Tuesday—Discussion on "Congenital Pyloric Stenosis." The medical aspect of the subject will be introduced by Dr. Edmund Cantley, London, and the surgical aspect by Dr. Harold Stiles, Edin.

Wednesday—Discussion on "Pneumococcal Infection." The



DR. DAWSON WILLIAMS,
Editor *British Medical Journal*.

The Canadian Journal of Medicine and Surgery.

medical aspect will be introduced by Dr. Henry Ashby, Manchester.

Thursday—A Symposium on "Enterocolitis." The subject will be taken up under the following headings: (a) Etiology, (b) Pathology, (c) Symptoms, (d) Diagnosis and Prognosis, (e) Medical Treatment, (f) Dietetic Treatment.

Friday—A Discussion on "Rheumatism."

Psychology.—The section of Psychology is under the presidency of Wm. Julius Mickle, M.D., London. It has been arranged to have four discussions, one each day of the sectional meetings. The subjects are:

Tuesday—"General Paresis."

Wednesday—"Classification of Insanity."

Thursday—"So-called Mental Degeneracy."

Friday—"Dementia Precox."

The leaders and those chosen to discuss these subjects will be eminent British, American and Canadian psychologists, and the President, Dr. Mickle, is expected to present the first paper, as he is a recognized authority on general paresis. The second subject chosen will be one of great interest to both countries, as it is a question now under general discussion.

A series of papers will also be presented by eminent men, and the following Canadians have already signified their intention to take part: Dr. C. K. Clarke, Toronto; Dr. Ryan, Kingston; Dr. Mohr, Brockville; Dr. Sherrie, Montreal; Dr. Daniel Clark, Toronto.

State Medicine.—The section of State Medicine is under the presidency of Dr. F. Montizambert, of Ottawa. The following programme has been arranged:

Tuesday—"The Prevention of Tuberculosis."

Wednesday—"Water Supplies."

Thursday—"The Hygiene of Homes and Educational and Industrial Institutions."

Friday—"International Sanitary Protection."

Guests.—Prof. Brouardel, member of the Institute and the Academy of Medicine, France; Dr. Mattin, City Health Officer of Paris, France; Dr. Letulle, Professor of the Medical Faculty of Paris; Dr. Licaga, Sanitary Adviser of the Government of Mexico, Mexico; Dr. Wyman, Surgeon-General of the United States Public Health and Marine Hospital Service, Washington.

Therapeutics.—The section of Therapeutics is under the presidency of Donald MacAlister, M.D., Cambridge. The following is the programme arranged:

Tuesday—The Study of the Kidney: (a) Its Physiology and Pharmacology; (b) The Therapeutics of Acute Nephritis;



MR. GUY ELLISTON.
Secretary of the British Medical Association.

(c) The Treatment of Chronic Nephritis; (d) The Treatment of Uremia.

Wednesday—"Serum Therapy."

Thursday—"The Place of Materia Medica and Therapeutics in the Medical Curriculum."

Friday—"The Value of Alcohol in Therapeutics," Dr. A. D. Blackader, Montreal; "The Teaching of Pharmacology"; "The Teaching of Therapeutics."

Pathology and Bacteriology.—The section of Pathology and Bacteriology, under the presidency of Professor J. G. Adami, M.D., F.R.S., Montreal, have made the following preliminary arrangements:

Tuesday—"Nuclear Physiology and Pathology." To be opened by Professor Adami and Dr. Macallum.

Wednesday—"Etiology and Life-History of Malignant New Growths."

Thursday—"The Forms of Arteriosclerosis, Their Classification and Experimental Production."

Friday—Papers upon "Pathogenic Protozoa" by various workers. Papers have been promised by Prof. Aschoff, Marburg, Germany; Prof. Novy, Ann Arbor; Dr. Pearce, Bender Laboratory, Albany; Dr. Bushnell; Prof. Grunbaum; Prof. Calder Leith; Dr. Oskar Klotz, Montreal; Prof. J. J. Mackenzie, Toronto.

The American Association of Pathologists and Bacteriologists have been formally invited to be present, and a number of the members will likely attend.

Dermatology.—This section will meet under the presidency of Dr. Norman Walker, of Edinburgh, who will open the section by an address on "The Teaching of Dermatology." During one of the days of the meeting there will be a discussion on the subject of "Eczema," to be opened by Dr. A. J. Hall, of Sheffield, Eng. A paper on "Psoriasis and Light" has been promised by Dr. J. N. Hyde, of Chicago. Papers will also be given by Dr. Gilchrist, Baltimore; Dr. A. R. Robinson, New York; Dr. Elliott, New York.

Physiology.—The section of Physiology will meet under the presidency of Professor W. D. Halliburton, M.D., F.R.S., London. The following programme has been arranged:

Discussions: (1) Discussions in junction with the section of Medicine on, "Over Nutrition and Under Nutrition, with Special Reference to Proteid Metabolism in Health and Disease"; (2) Discussion in junction with the section of Pathology on "The Role of the Nucleus in Nutrition."

Papers: Dr. S. P. Beebe, New York, on "Serum under the Influence of Injected Nucleo-proteid"; Prof. T. G. Bordie,



OFFICES OF THE BRITISH MEDICAL ASSOCIATION,
STRAND, LONDON, ENGLAND.

F.R.S., London, on "The Functions of the Renal Tubules and Glomeruli"; Prof. F. Gotch, F.R.S., Oxford, on "Demonstration of the Sphinthariscopes"; Prof. W. B. Hall, Chicago, on "New Apparatus"; Prof. W. D. Halliburton, F.R.S., London, on "Proteid Nomenclature"; Prof. C. F. Hodge, Worcester, Mass., on "Structures and Physiological Functions of Amoeba Proteus"; Profs. C. F. Hodge and M. F. Duncan, Worcester, Mass., on "Differentiation of Contractile Protoplasm"; Prof. W. H. Howell, New York, on "Physiology of Heart"; Prof. G. C. Huber, Ann Arbor, on "Physiology of Renal Tubules"; Dr. G. T. Kemp, Champaign, Ill., on "Blood-platelets"; Dr. Louis Lapicque, Paris, on "Electrical Excitation of Nerves and Muscles"; Prof. J. S. Macdonald, Sheffield, on "Structure and Functions of Nerve Fibres"; Prof. J. J. R. MacLeod, Cleveland, on "Experimental Glycosuria"; Dr. Gustav Mann, Oxford, on "A Plea for Micro-physiology"; Prof. B. Moore, Dr. M. Edie, Dr. Spence, and Dr. H. E. Roaf, Liverpool, on "Experimental Glycosuria"; Prof. B. Moore, E. Whitley, and Dr. H. E. Roaf, Liverpool, on "Effects of Ions on Growth and Cell Division"; Dr. F. W. Mott, F.R.S., London, on "The Functional Significance of the Convolutional Pattern in the Primates"; Dr. Maurice Nicloux, Paris, on "Chloroform Anesthesia and a Simple Method of Estimating Chloroform"; Prof. C. S. Sherrington, F.R.S., and Dr. H. E. Roaf, Liverpool, on "Lock-jaw"; Prof. F. S. Lee, New York, on "The Causes of Fatigue in Certain Pathological States."

Papers are also promised by the following: Dr. Harvey Cushing, Baltimore; Dr. P. T. Herring, Edinburgh; Dr. F. G. Hopkins, F.R.S., Cambridge; Prof. Waldemar Koch, Columbia, Mo.; Dr. S. J. Meltzer, New York; Dr. Sutherland Simpson, Edinburgh; Prof. L. B. Mendel, New Haven; Prof. Porter, Boston; Prof. Jacques Loeb, Berkeley, Cal.

Ophthalmology.—The section of Ophthalmology will meet under the presidency of Robert Marcus Gunn, F.R.C.S., London. The following provisional programme has been arranged:

Tuesday—"Rare Forms of Choroiditis."

Wednesday—"Sympathetic Ophthalmia."

Thursday—"Affections of the Lachrymal Passages."

Friday—"Visual Tests for Marine and Railroad Service."

Most of the buildings of the University will be utilized in connection with the meeting. On the ground floor of the Main Building, in addition to the Post Office and Reception Rooms, there will be rooms for the regular meetings of some six or eight sections. The second floor, in addition to special offices for the Secretariat and the Editor of the *British Medical*



DR. RADCLIFF CROCKER,
Treasurer of the British Medical Association.

Journal, will be devoted almost entirely to the Museum, which will afford some 12,000 square feet for exhibitors. Already a large amount of this space has been disposed of to leading manufacturers of instruments and drugs in Great Britain, the United States and Canada. This alone will be one of the most interesting parts of the Association to Canadian visitors. Accommodation for other sections will be provided in rooms closely adjoining the Main Building. It is expected that the new Convocation Hall will be completed in sufficient time to enable the ceremonies of the official reception, on the evening of the 21st of August, and the public addresses, to take place there. Already the Committee is actively engaged in providing accommodation for the host of visitors that is expected. Queen's Hall, Wycliffe College, Annesley Hall, the Fraternity houses, and other buildings adjacent to the University will probably be utilized, and many of the citizens are already offering their hospitality. The Committee on Entertainment have a most excellent programme prepared, one of the interesting features of which will be an excursion to Niagara Falls at the invitation of Sir Henry Pellatt. Owing to the exceptionally favorable travelling rates which have been obtained over the Canadian lines of steam and rail, the attendance will be made very easy, and physicians wishing to avail themselves of the privileges of this meeting should communicate with the Secretaries at an early date, in order to obtain accommodation.

EASTERN CANADIAN PASSENGER ASSOCIATION.

(Including the following Lines.)

Algoma Central and Hudson Bay Railway, Bay of Quinte Railway, Boston and Maine R.R., Canadian Pacific Railway, Central Ontario Railway, Central Vermont Railway, Grand Trunk Railway System, Great Northern Railway of Canada, Huntsville, Lake of Bays and Lake Simcoe Nav. Co., Kingston and Pembroke Ry., Muskoka Lakes Nav. and Hotel Co., New York Central and Hudson River R.R., Niagara Navigation Co., Northern Navigation Co., Ontario and Quebec Navigation Co., Oxford Mountain Railway, Ottawa and New York Railway, Ottawa River Navigation Co., Pembroke Navigation Co., Pere Marquette, C.H. and D. System, Quebec Central Railway, Quebec Railway Light and Power Co., Quebec Southern Railway, Richelieu and Ontario Navigation Co., Rideau Lakes Navigation Co., Rutland R.R., Temiscouata Railway, Temiskaming and Northern Ontario Railway, Toronto, Hamilton and Buffalo Railway, Trent Valley Navigation Co., Dominion Atlantic Railway, Intercolonial Railway.



DR. LANGLEY BROWNE.
Chairman of Council of the British Medical Association.

1. *Fares, Going Dates and Limits.*—(a) Domestic Business, Certificate, Plan Arrangements; free return regardless of number in attendance. Passengers going rail, returning R. and C. Navigation Co., or *vice versa*, rate to be one-half fare.

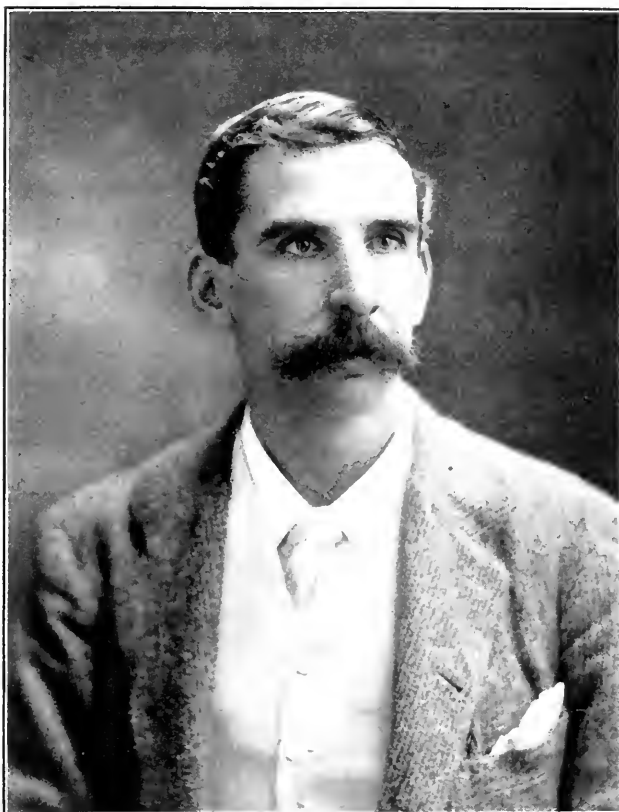
(b) European Business.—On presentation of certificate, to be prepared and signed by the Secretary of the Eastern Canadian Passenger Association, and countersigned by the Secretary of the Canadian Committee, or the Secretary of the British Medical Association, one-way tickets to be issued at one-half lowest one-way first-class rail fare; round trip tickets at lowest one-way first-class rail fare between all points in Canada. Rates to the Pacific Coast subject to concurrence of Transcontinental Passenger Association. Steamship lines to advise Secretary what, if any, additional arbitraries are required. Dates of sale, July 1st to September 30th, 1906, inclusive. **Final return date, September 30th, 1906.**

2. *Extension of time Limit.*—On deposit with Joint Agent of Standard Convention certificates issued from points in the Maritime Provinces, points west of Port Arthur and from points in the United States, on or before August 28th, 1906, and on payment of fee of \$1.00 at time of deposit, an extension of time until September 30th to be granted. Joint Agency to be conducted in the name of G. H. Webster, Secretary, Eastern Canadian Passenger Association, will be kept open from August 21st to September 15th, 1906.

3. *Side Trips.*—(a) Side trip tickets to be sold from Toronto to delegates from the Maritime Provinces, from points west of Port Arthur, and from the United States on presentation of validated certificate, or deposit receipt, at lowest one-way first-class fare for the round trip, to all points in Canada. Dates of sale, August 23rd to September 1st, 1896, inclusive. Return limit, September 30th, 1906.

(b) Side trip tickets also to be sold to delegates from Ontario and Quebec to stations west of and including Sudbury, and east of and including Montreal, on presentation of validated certificate or deposit receipt, at lowest one-rate first-class fare for the round trip. It being understood, also, that the arrangements authorized for the extension of time limit from points in the Maritime Provinces, from points west of Port Arthur and from points in the United States will also apply for delegates from Ontario and Quebec.

Usual additional arbitraries *via* Upper Lake Steamships to apply, viz., going lake returning same, \$8.50 additional to be collected. Going lake, returning rail, or going rail returning lake, \$4.25 additional to be collected. Also usual arbitraries *via* St. Lawrence route, for delegates desiring to return by



SIR VICTOR HORSLEY, F.R.S.,
Who will deliver the Address in Surgery.

The Canadian Journal of Medicine and Surgery.

steamer, on presentation of tickets to purser, viz., \$6.50 Toronto to Montreal; \$3.50 Kingston to Montreal.

Via Northern Navigation Company on lines where meals and berth are included, rate to be single fare plus meal and berth arbitrary.

Ocean Transportation.—The "Lines" will grant the minimum rates named in the circulars published by the respective lines.

The Trunk Line Association covering New York State, Pennsylvania, West Virginia, Maryland, and Washington, including the following railways: Grand Trunk Railway, New York Central and Hudson River R.R., West Shore Railroad, New York, Ontario and Western Railway, Erie Railroad, Delaware, Lackawanna and Western R.R., Lehigh Valley R.R., Central Railroad of New Jersey, Philadelphia and Reading Railway, Pennsylvania R.R., Baltimore and Ohio R.R., Chesapeake and Ohio Railway.

Persons from points in the territory of the Trunk Line Association, who pay full first-class fare going to the meeting, shall be returned at *one-third* the highest limited fare by the route travelled, *on the certificate of the Trunk Line Association*. This certificate must be obtained from the ticket agent at starting points, and when endorsed by the Secretary of the Canadian Committee or the General Secretary of the British Medical Association, and vised by the special agent of the railway companies, may be presented by the holder at the place of meeting to obtain the concession returning. A fee of 25 cents will be charged for each certificate vised.

The returning journey must be made by the line over which the going journey was made.

Guests attending and making use of these certificates should give the ticket agents *timely notice* of their intention, in order that through ticket and certificates may be ready when required.

Going tickets and certificates will be issued August 17th to 23rd. Certificates will be vised August 21st to 25th, inclusive, and then honored for return tickets to and including August 29th. Extension of the return limit may be obtained to leave Toronto up to and including September 30th, by depositing validated certificates with Mr. G. H. Webster, Joint Agent at Toronto on or before August 28th, and making a payment to him of \$1.00 at the time of deposit.

The New England Passenger Association covering Maine, New Hampshire, Vermont, Massachusetts, Connecticut and Rhode Island, including the following railways: Bangor and Aroostook R.R., Boston and Albany R.R., Boston and Maine R.R., Canadian Pacific Railway, Central Vermont Railway, Eastern S.S. Co., Grand Trunk Railway, Maine Central R.R.,



SIR JAMES BARR.
Who will deliver the Address in Medicine.

New York and New Haven and Hartford R.R., Portland and Rumford Falls Railway, Quebec Central Railway, Rutland R.R.

Certificate Plan Arrangements.—Free return regardless of the number in attendance.

Passengers going by rail, returning by Richelieu and Ontario Navigation Co., or *vice versa*, rate to be one and one-half fare.

On deposit with Joint Agent of Standard Certificates on or before August 28th, 1906, and on payment of fee of one dollar at time of deposit, an extension of time until September 30th will be granted. Joint Agency to be conducted in the name of G. H. Webster, Secretary, E.C.P. Association, will be kept open from August 21st to September 15th, 1906.

Side-trip tickets to be sold from Toronto to delegates from the Maritime Provinces, from points west of Port Arthur and from the United States, on presentation of validated certificates, or deposit receipt, at lowest one-rate way first-class fare for the round trip to all points in Canada.

Dates of sale, August 23rd to September 1st, 1906, inclusive; return limit, September 30th, 1906.

Usual additional arbitraries *via* Upper Lake Steamships to apply, viz., going lake, returning same, \$8.50 additional to be collected. Going lake, returning rail, or going rail, returning lake, \$4.25 additional to be collected. Also usual arbitraries *via* St. Lawrence route, for delegates desiring to return by steamer, on presentation of tickets to purser, viz., \$6.50, Toronto to Montreal; \$3.50, Kingston to Montreal.

Via Northern Navigation Company on lines where meals and berth are not included, the rail rate will apply; on lines where meals and berth are included, rate to be single fare, plus meal and berth arbitrary.

Excursions and Side Trips being Arranged.—A large number of excursions and side trips are being arranged for, some that can be accomplished in a day, and others taking several days, so that there is no question that our visitors from across the Briny will be afforded every opportunity of seeing the beauty spots of this fair Dominion. We append herewith a list of a few of the trips which the Committee contemplate arranging:

1. A trip to Algonquin National Park—Distant from Toronto, 205 miles. Cost for round trip (Association rate), \$5.65 (about £1 2s. 8d.).

2. To Lake Nipissing and French River—Toronto to North Bay, 227 miles. Cost for round trip (Association rate), \$6.85 (about £1 7s. 3d.).

3. A trip to the Temagami Region—300 miles. Cost of round trip (Association rate), \$9.95 (about £1 19s. 10d.).

4. A trip to Lake Simcoe and Couchiching, Bass Lake and the Severn River.



DR. W. S. A. GRIFFITH,
Who will deliver the Address in Obstetrics.

5. To Muskoka Lakes—Round trip, distance, 112.

6. A trip to the Kawartha Lakes—Round trip fare (Association rate), \$4.30 (about 17s. 2d.).

7. A trip to the Lake of Bays—Distance from Toronto, 146 miles; cost of round trip (Association rate), \$4.45 (about 17s. 10d.).

HOTELS AND LODGINGS COMMITTEE.

Name of Hotel, and Address.	Number of Guests	Rates per Day.
The New Russell House, 217 Yonge St.	40	\$1.50 (special rate).
The Tremont, 163 Yonge St.	100	\$2.00 (American plan).
The Queen's, Front St.	200	\$3.00 up, without bath; \$4.00, with bath (American plan).
The Arlington, King St. W.	50	\$2.00 to \$2.50 (American plan).
The King Edward, King St. E.	700	EUROPEAN—Single room without bath \$1.50 up, with bath \$2.00 up; double room without bath \$2.50 up, with bath \$3.50 up. AMERICAN—Single room without bath \$3.50 up, with bath \$4.00 up; double room without bath \$6.00 up, with bath \$7.00 up.
The Iroquois, King St. W.	60	\$1.50 up.
Rossin House, King and York Sts.	500	\$2.50 (American plan).
Hotel Gladstone, 1204 Queen St. W.	75	\$1.50 (\$1.00 for bed and breakfast).
Walker House, Front and York Sts.	75	\$1.50 up.
Name of Boarding House.	Number of Guests	Rates per Day.
The Waverley, 484 Spadina Ave.	10	\$1.00 to \$1.50.
Matheson Hall, 599 Yonge St.	25	\$1.00 to \$1.50.
The Avonmore, 276 Jarvis St.	25	\$1.25 (single meals 25 cents).
The Abberley, 258 Sherbourne St.	100	\$1.00 (special rate).
Mrs. Snell, 39 Grosvenor St.	10	\$1.25 to \$1.50.
Conservatory Residence, 47 St. George St.	20	\$1.50 to \$2.00.
Mrs. Ray, 70 Murray St.	6	\$1.00 (room and breakfast).
Queen's Hall, 7 Queen's Park.	48	\$2.00 (including meals).
Annesley Hall, Queen's Park.	65	\$1.25 (gentlemen preferred to ladies).
Nurses' Home, Children's Hospital.	75	

The Canadian Journal of Medicine and Surgery

J. J. CASSIDY, M.D.,

EDITOR.

43 BLOOR STREET EAST, TORONTO.

W. A. YOUNG, M.D., L.R.C.P. Lond.,

MANAGING EDITOR.

145 COLLEGE STREET, TORONTO.

Surgery—F. N. G. STARR, M.B., Toronto, Associate Professor of Clinical Surgery, Toronto University; Surgeon to the Out-Door Department Toronto General Hospital and Hospital for Sick Children; N. A. POWELL, M.D., C.M., Prof. of Medical Jurisprudence, Toronto University, Surgeon Toronto General Hospital, etc.

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Pathology—W. H. PEPLER, M.D., C.M., Trinity University; Pathologist Hospital for Sick Children, Toronto; Associate Demonstrator of Pathology Toronto University; Physician to Out-Door Department Toronto General Hospital; Surgeon Canadian Pacific R.R., Toronto; and J. J. MACKENZIE, F.R.C.S., M.B., Professor of Pathology and Bacteriology Toronto University Medical Faculty.

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Laryngology and Rhinology—J. D. THORBERN, M.D., Toronto, Laryngologist and Rhinologist, Toronto General Hospital.

Dermatology—D. KING SMITH, M.B. Tor., Toronto.

Address all Communications, Correspondence, Books, Matter Regarding Advertising, and make all Cheques, Drafts and Post-office Orders payable to "The Canadian Journal of Medicine and Surgery," 145 College St., Toronto, Canada.

Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited. Contributors must kindly remember that all papers, reports, correspondence, etc., must be in our hands by the first of the month previous to publication.

Advertisements, to insure insertion in the issue of any month, should be sent not later than the fifth of the preceding month. London, Eng. Reprint sent via W. Hamiton M'In, Thonet House, 231 Strand, W.C. Agents for Germany, Saarbach's News Exchange, Mainz, Germany.

VOL. XX.

TORONTO, JULY, 1926.

NO. 1.

Editorials.

OUR BRITISH MEDICAL ASSOCIATION NUMBER.

As yet we hear only the fog horn, and we are straining our eyes for the lights of the good ship with its human freight of British medicos, so soon due on this side of the herring pond.

A welcome awaits our expected guests, and so we have unfurled a few flags and a bit of bunting in this issue of our journal, and hung a few portraits of faces that will greet each other and

perchance give us occasion to raise the shout, "For he's a jolly good fellow!"

It's the second time during the last decade that this honored Association has graced Canada with its presence, and the promise of meeting place, upon the former occasion in Montreal, and now in Toronto, giving this journal its first opportunity to wear court dress, and we hope the bow will be accepted as graciously as it is made. Many difficulties had to be surmounted and several disappointments suffered, including the circumstance that, at the last moment, our esteemed Canadian confrere, Dr. William Osler, now of Oxford, was unable to finish his promised paper in time for this issue. Also, the corrected galley proofs of the paper of our collaborator, Dr. Alexander McPhedran, who is travelling abroad, have not reached us, and it is now the eleventh hour. Early summer is with us in this lovely land, and we let the old inhabitant, Hiawatha, of song and story, extend his greeting:

"Beautiful is the sun, O strangers,
When you come so far to see us!
All our town in peace awaits you,
All our doors stand open for you;
You shall enter all our wigwams,
For the heart's right hand we give you.

"Never bloomed the earth so gaily,
Never shone the sun so brightly,
As to-day they shine and blossom
When you come so far to see us!

"Never was our lake so tranquil,
Nor so free from rocks and sand-bars;
For your birch canoe in passing
Has removed both rock and sand-bar!

"Never before had our tobacco
Such a sweet and pleasant flavor,
Never the broad leaves of our corn-fields
Were so beautiful to look on,
As they seem to us this morning,
When you come so far to see us!"

W. A. Y.

RELATIVE TO THE HISTORY OF THE CONSTITUTION OF THE BRITISH MEDICAL ASSOCIATION.

THE British Medical Association, under its present constitution, is a federation of local medical societies, called Divisions. The Divisions are grouped for certain purposes in local bodies



A. W. MAYO ROBSON, F.R.C.S.



H. MACNAUGHTON-JONES, M.D.,
M.Ch., R.U.I.



W. ROSE, M.S., F.R.C.S.



LENNOX BROWNE, F.R.C.S.



A. CARLESS, M.S., F.R.C.S.



H. W. ALLINGHAM, F.R.C.S.

called Branches. The aggregate of Branches composes the Association.

Each Division and Branch has its own local administration and rules, subject only to such restrictions upon each as are deemed needful for the harmonious co-operation of all.

The Divisions and Branches are linked together in the Association by the following means:

(a) Every member of a Division is a member of the Association, and conversely every member of the Association is a member of the Division in whose area he resides.

(b) The whole Association is subject to certain general regulations, defined in the Memorandum of Association, Articles of Association and By-laws.

(c) The governing bodies of the whole Association are: For certain specific purposes, the General Meeting of the Members, in which every member is entitled to take part; and for all other purposes, the Representative Meeting, in which every member through his Division is entitled to be represented.

(d) The Association has a Central Executive, consisting of a Representative Council and Committees.

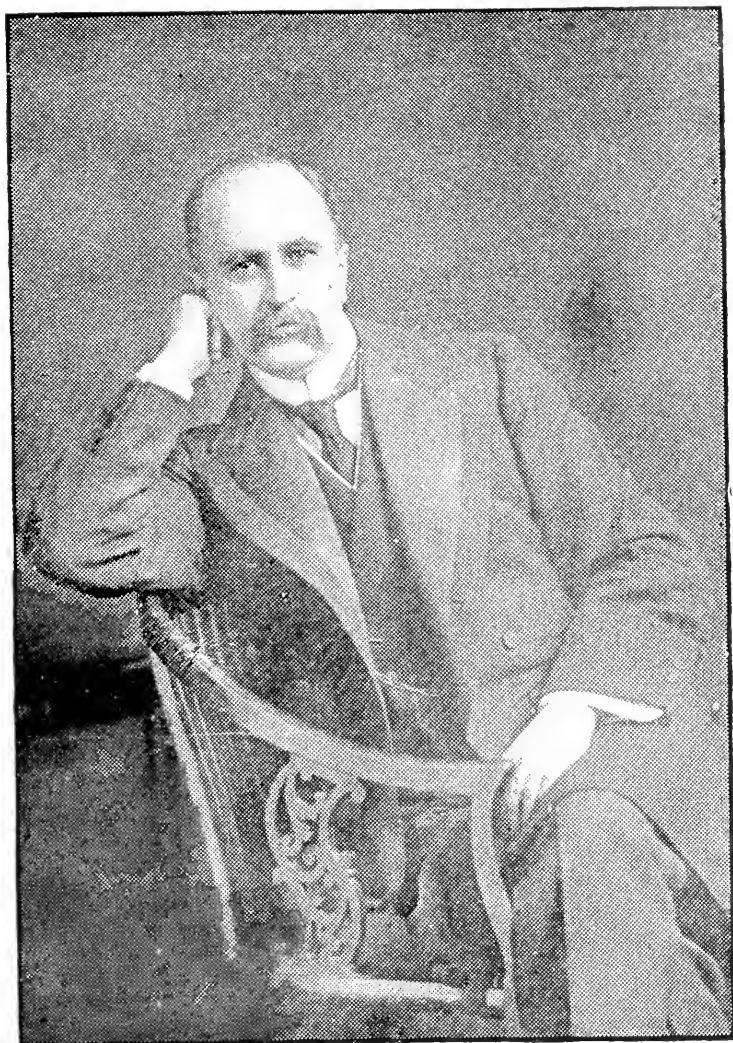
(e) The whole Association has an official organ, the *British Medical Journal*, published under control of the Council.

(f) A uniform subscription of 25s. is paid by every member, and entitles to all ordinary privileges of membership, both of the Association, and of any Division and Branch to which a member may at any time belong.

In the early years of its life, the constitution of the British Medical Association was simple—a small Council by which all its affairs were governed, and, until the establishment of the Branches began, this sufficed for all its requirements.

But on this Council the Branches soon desired to have some representation, and as they grew in number, so the Council also gradually increased in size, until it became unwieldy and greatly hampered the conduct of business. It was decided that a Special Committee, to be known as the "Committee of the Council," should be brought into existence, and, subject to the veto of the Council at the annual meeting, was to be the real managing "cabinet" of the Association.

The Committee was to consist of Past Officers, Presidents,



PROF. WILLIAM OSLER, OXFORD, ENGLAND.

Presidents of Council, Treasurers, and so on, who were made "Vice-Presidents for life," and twenty members of the Council to be elected by ballot by the Council, was to meet four times a year, and at the end of each year was to be accountable to the Council for its actions and policy, and to stand or fall thereby.

The members of the Committee of Council paid their own expenses, the honor of the position being regarded as ample recompense for any sacrifice made.

After a time, however, a demand for representative government was made. At the annual meeting, held in Worcester in 1882, the questions of the constitution and government of the Association were raised by the following motion, of which due notice had been previously given: That the Committee of Council be requested to consider in which way direct representation of the Branches can best be secured.

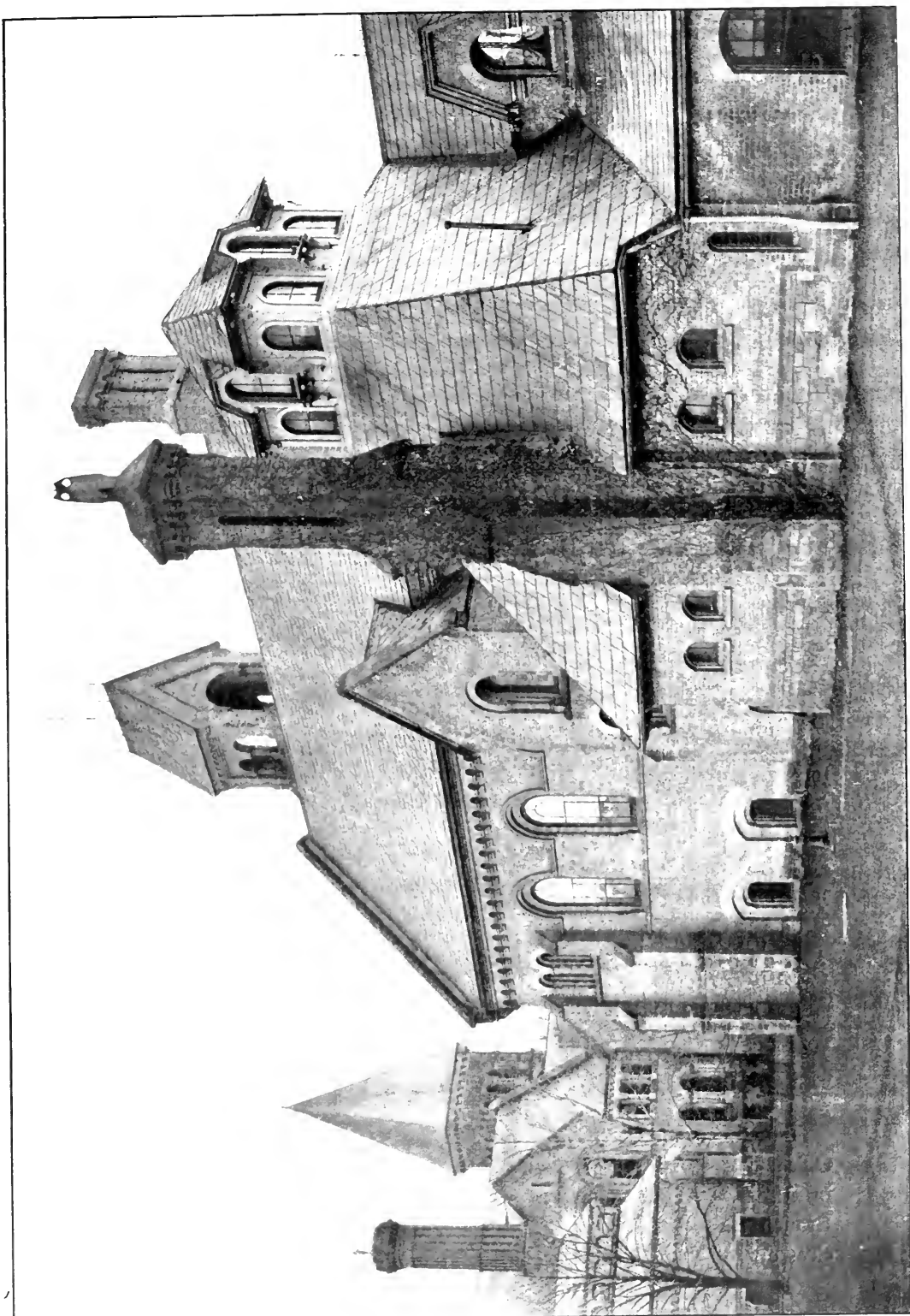
This resolution was carried, and in response to it on October 18th, 1882, a sub-committee was appointed to consider the question and to report to the Council. This sub-committee came to the conclusion, that its first duty was to ascertain the mind of the Association generally concerning the matter in question.

With this object in view, it was determined to issue through the President of the Council a series of questions, together with a covering circular letter, addressed to the President and Secretary of every home Branch, asking its views on the subject.

This letter set forth the question under consideration in its fullest aspect, sought the counsel and advice of the Presidents and Secretaries of every home Branch concerning it, and appended to it was a series of questions, the answers to which, it was thought, would be decisive. Up to this time every Branch had been represented on the Committee of Council by its Honorary Secretary, *ex-officio*, and the first question was: Is your Branch satisfied with its present method of representation on the Committee of Council by its Honorary Secretary, *ex-officio*?

Sixteen questions were added to enable each Branch to make clear its objections to the above, if it had any, and aimed at getting fairly at the root of the matter. They ran as follows:

Has your Branch, having the power to elect a special Honorary Secretary to represent it on the Committee of the Council, availed itself of that power?



VIEW OF THE OLD RESIDENTIAL WING, UNIVERSITY OF TORONTO.
The Canadian Journal of Medicine and Surgery.

What is the total number of the members of your Branch, and what is the income of your Branch from Branch subscriptions?

Are the travelling expenses of your Honorary Secretary to the meetings of the Committee of Council defrayed by the Branch?

Is there any feeling in your Branch of inadequate representation?

Is the attendance of your Honorary Secretary at the meetings of Committee of Council influenced by the payment or non-payment of his travelling expenses?

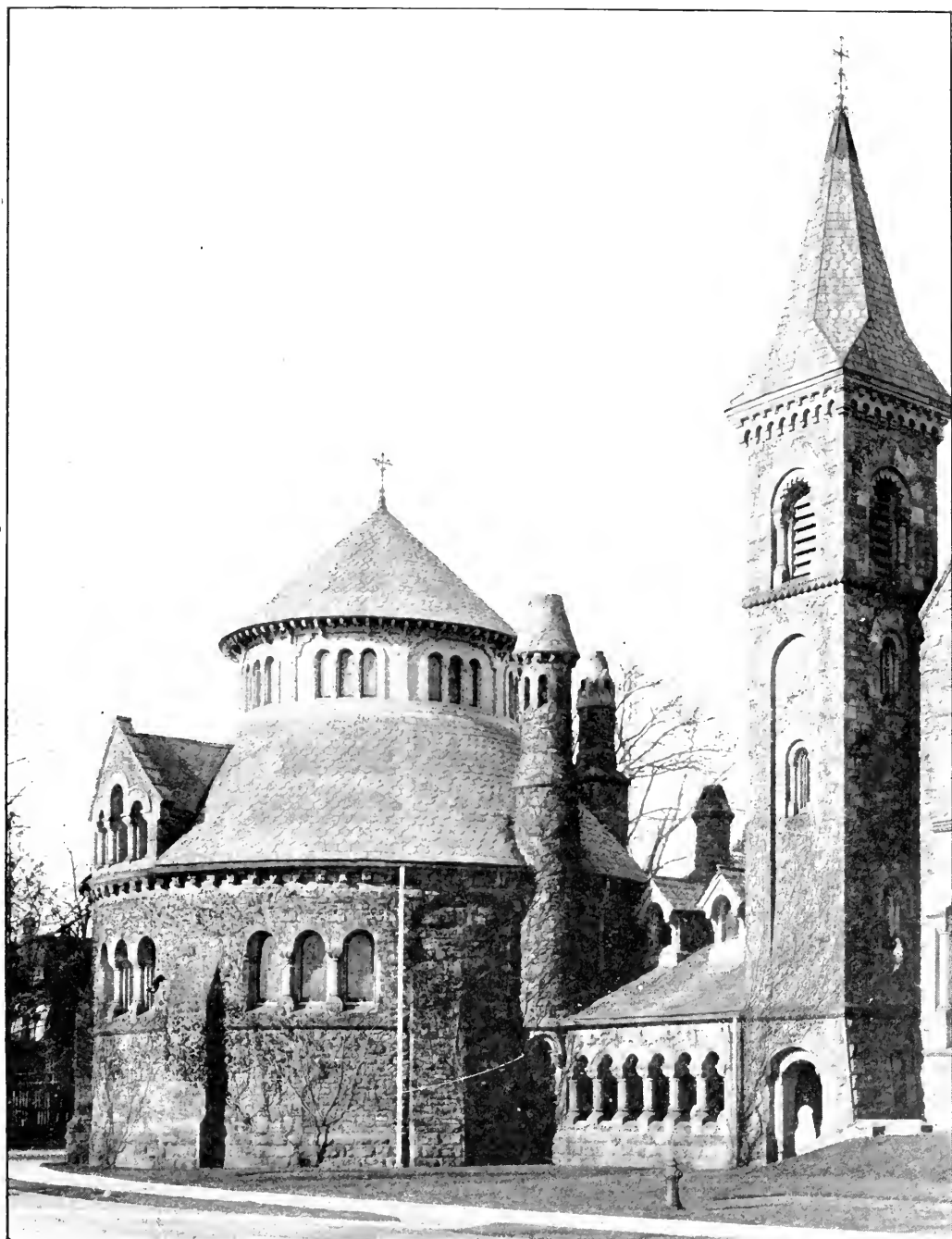
Have you any other suggestions to offer to the sub-committee with regard to the representation of your Branch in the Committee of Council?

The answers received in reply to these questions were difficult to summarize, but the sub-committee, acting on what appeared to be their general sense, drew up an exhaustive report, and this report, which, for convenience of debate, was drawn up in two parts, was discussed at a special meeting of the Council held at Birmingham, May 17th, 1883.

The report with some slight modifications was adopted, and it was resolved: That the Committee of Council be requested to give due notice before the annual meeting of such alterations in the laws and by-laws of the Association as may be necessary for carrying into effect the change in the constitution of the government of the Association, embodied in the report of the sub-committee on the representation of the Branches in the Committee of the Council, as amended by the Council this day.

And this resolution was followed by another: That, as the Council, as proposed to be elected, will in future be the executive or governing body, and the Committee of Council, thus being no longer required, will cease to exist, the required alterations of the laws and by-laws be made by the Committee of Council, with the assistance of the solicitor of the Association.

The new Council of the Association was to consist of the Officers, as before, the Vice-Presidents, who had been, or should in future, be elected for life, of one representative for every Branch as heretofore, the larger Branches having the right to elect out of their members additional representatives on the fol-



TOWER, WEST END, MAIN BUILDING, UNIVERSITY OF TORONTO.

lowing scale, namely: That in Branches numbering over two hundred members there should be one additional representative for every two hundred members.

The question of the payment of the expenses of representatives was, after a good deal of discussion, finally decided at a general meeting, held at Leeds in 1889, a resolution being carried, that first-class railway fares, to and fro, were to be allowed to such representatives when travelling in the United Kingdom.

At the annual meeting of 1900, at Ipswich, a Committee was appointed to consider and report, first to the Branches, and subsequently to the Annual General Meeting, on the changes required in the constitution. The scheme prepared by this Committee was approved, subject to a few minor changes, by the Annual General Meeting of 1901, at Cheltenham, and a further Committee appointed to supervise the preparation of new articles of Association and By-laws to give effect to the scheme.

The articles and by-laws so prepared were adopted by special resolution on July 9th, 1902, and are those now in force, subject to certain amendments of details of the by-laws, which have been subsequently adopted in the manner provided in the constitution.*

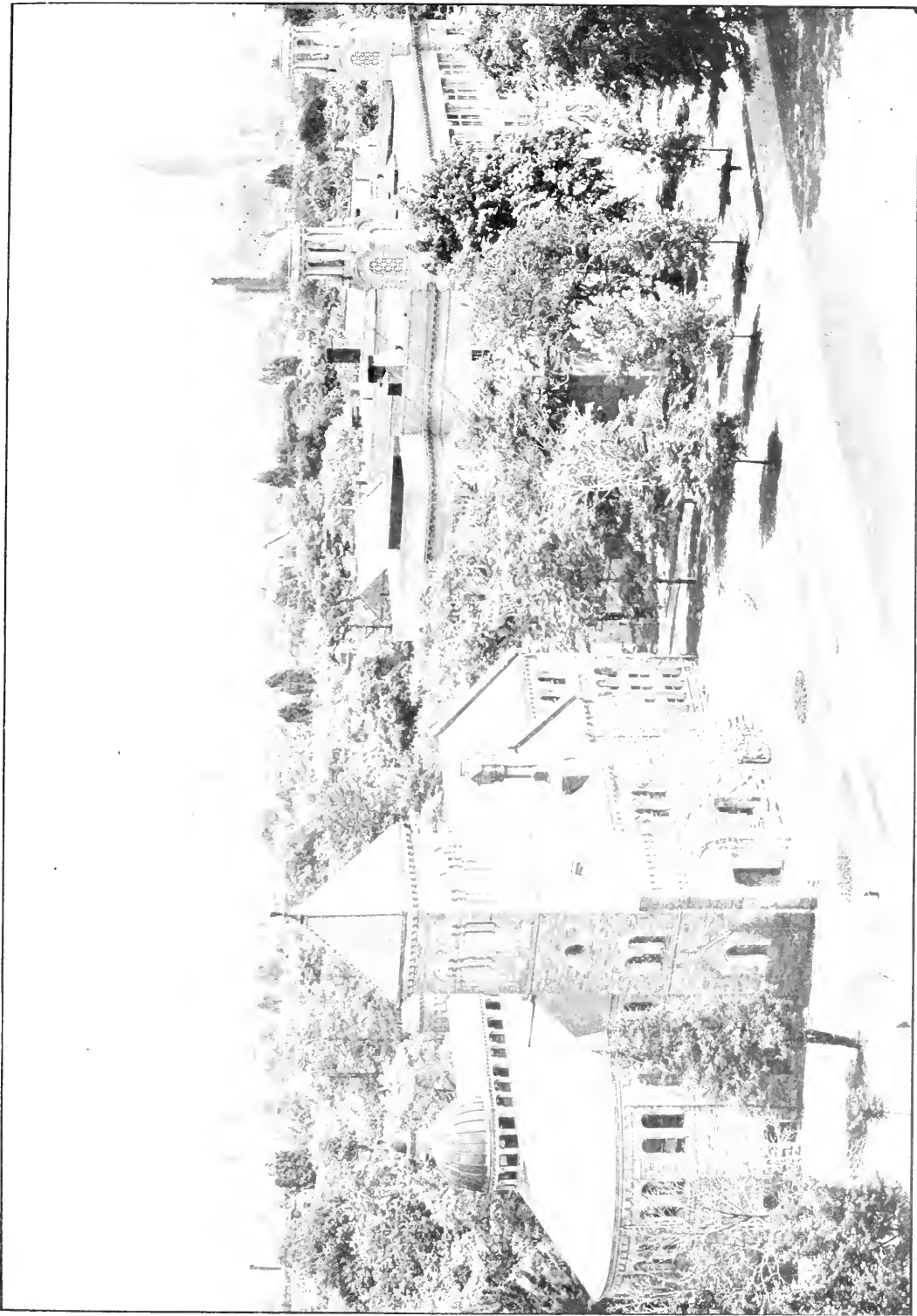
J. J. C.

THE COMMITTEES OF THE BRITISH MEDICAL ASSOCIATION.

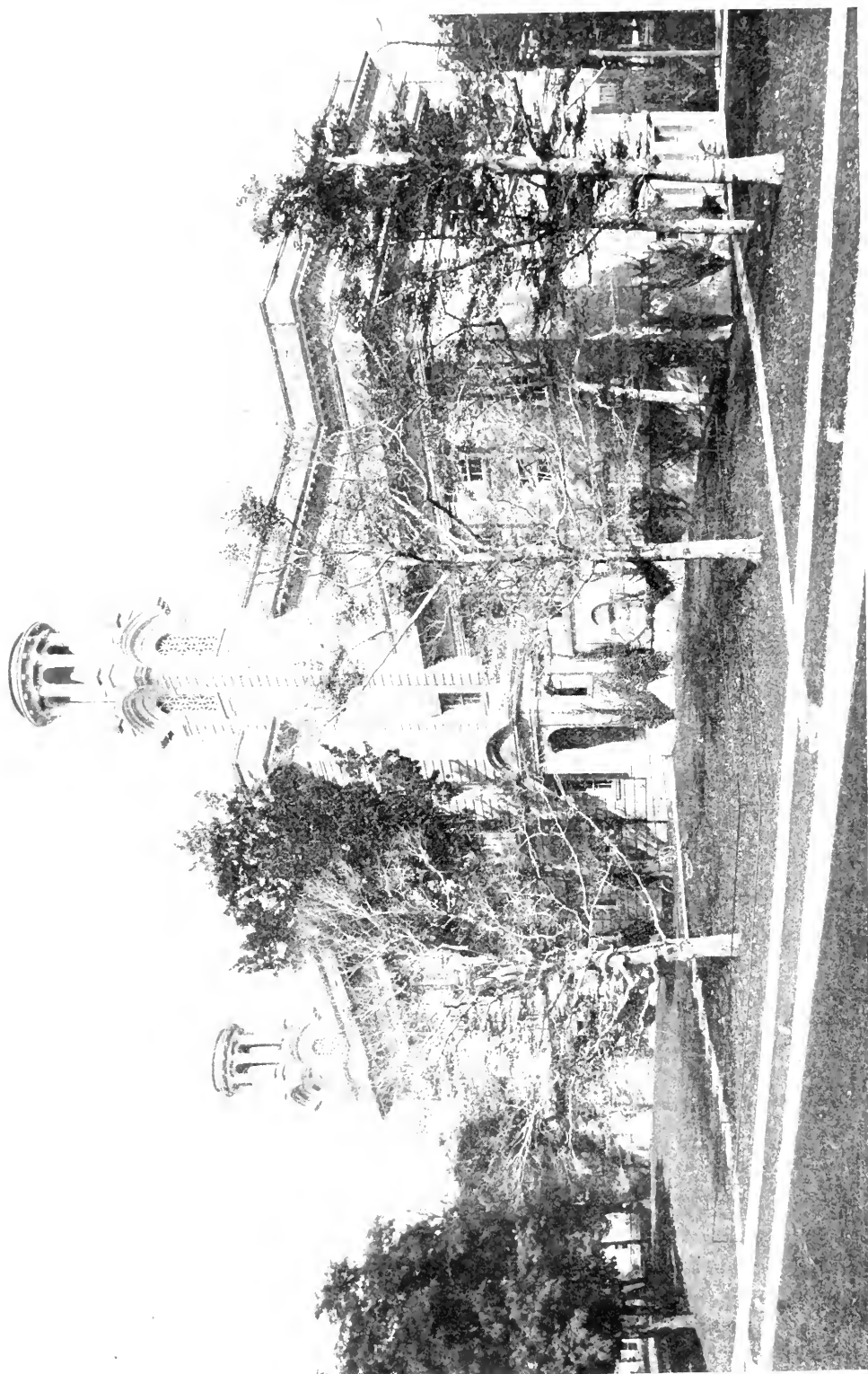
In dealing with the many and important subjects cropping up and claiming consideration or settlement at its hands, the Council of the Association commits, in the first instance, nearly everything to the scrutiny of a small committee, by whom it may be examined in all its bearings and reported on, in print, to the Council.

Several of the committees are permanent bodies, only a certain number of whose members are changed from time to time, and they have thus a thorough knowledge of the matters each takes in hand. The Journal and Finance Committee, the Parliamentary Bills Committee, the Scientific Grants Committee, the Trust Funds Committee, and the Library and Premises Committee may be taken as examples of permanent committees, with-

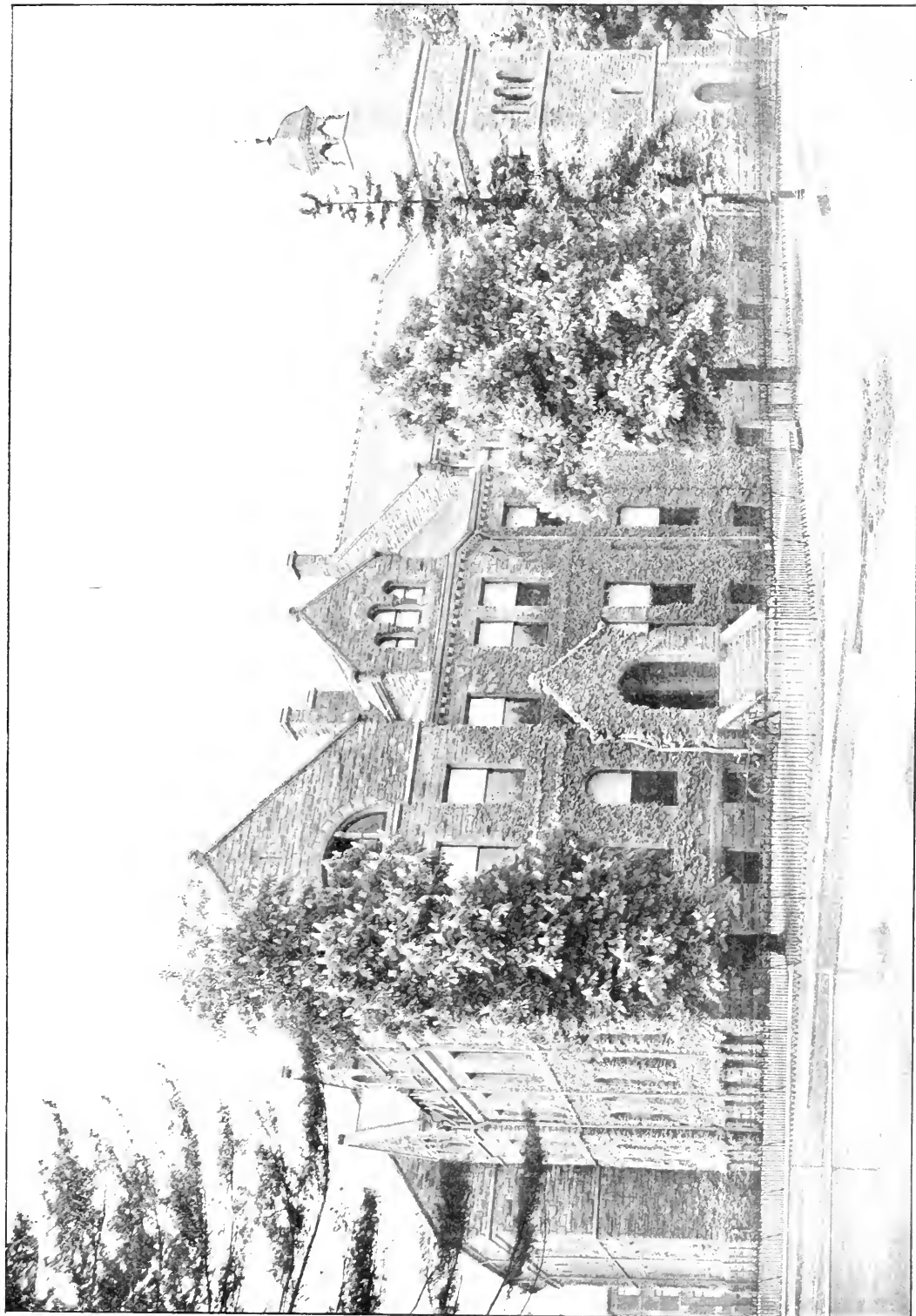
*For further details of the constitution of the British Medical Association see *British Medical Association Year Book*, 1906, p. 69.



SOUTHEASTERN VIEW FROM UNIVERSITY COLLEGE TOWER.



NEW MEDICAL BUILDING, QUEEN'S PARK.



BIOLOGICAL BUILDING, QUEEN'S PARK.

out whose special attention in their several directions the Council could not act intelligently. As special questions arise from time to time, concerning which some members are known to possess special knowledge, they, in like manner, are generally placed in the hands of such members—are threshed out by them first and then reported on to the Council for ultimate decision or dismissal. The Committee of Anesthetics, the General Practitioners' Committee, the Committee on the Eye-Sight of Public Servants, that on Weak-Minded Children, are examples of such Committees.

J. J. C.

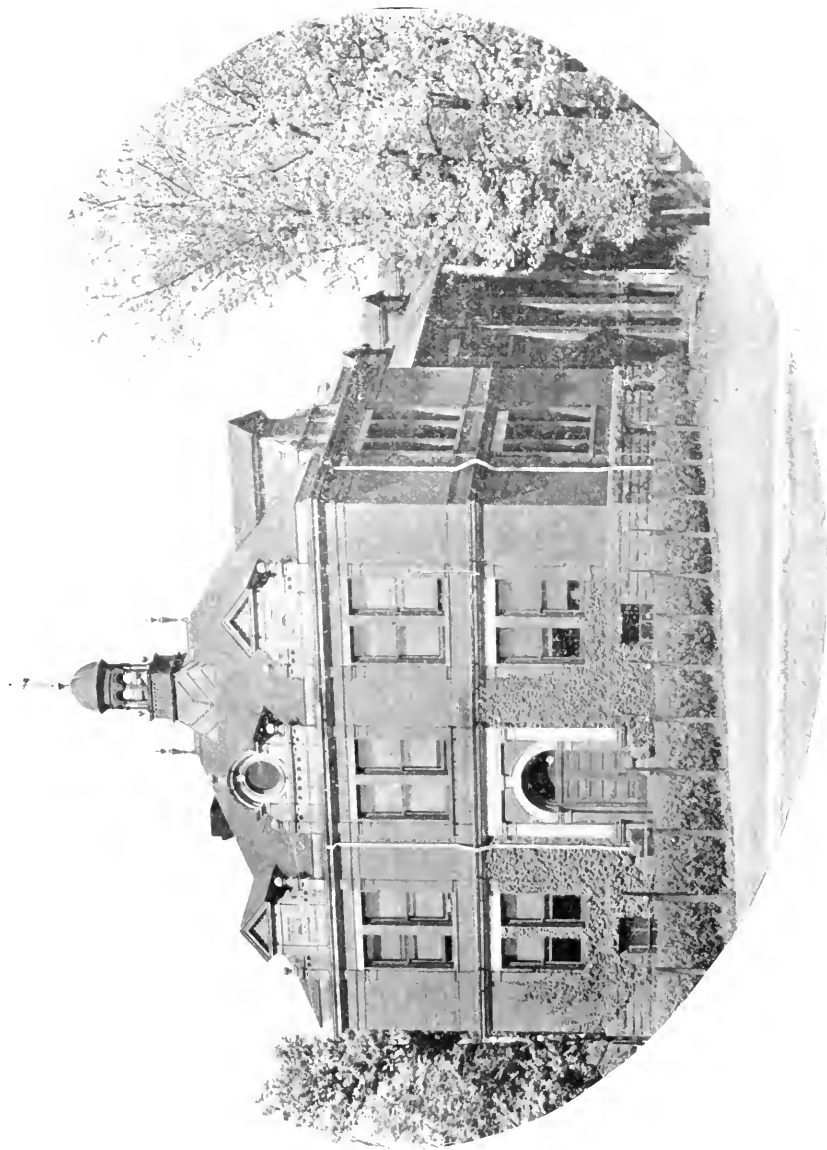
THE "BRITISH MEDICAL JOURNAL."

THE *British Medical Journal* is, as we would say in Canada, the linch-pin of the Association, for, were it other than this—one of the first medical journals in the world—the British Medical Association could not have reached its present position of influence and numerical strength.

For many years after the formation of the Association, in the hands of editors resident in various provincial centres, the *Journal* remained provincial in character and of very ordinary reputation. As a record of the work and proceedings of the Association it was welcome to members, and in its pages are preserved addresses, lectures, papers, records of cases and other matters of the greatest value and importance.

Mr. Ernest Hart was appointed editor in 1867, and, from that time, with a slight interregnum in 1869 and 1870, up to the time of his death in 1900, he continued to occupy the editorial chair. It can be fairly said that much of the success of the *British Medical Journal* depended on his skill and untiring industry.

It is pleasing to be able to bear witness to the fact that the achievements of Mr. Dawson Williams, the present editor of the *British Medical Journal*, show no recession from the high mark left on the sands of editorial fame by his gifted predecessor. Devoted as the *British Medical Journal* has been to the service of the members of the Association of every class—to the public services, military, naval, poor law, and representative as it has been of every advance in medicine, surgery and midwifery in all



GYMNASIUM, UNIVERSITY OF TORONTO.

The Canadian Journal of Medicine and Surgery.

countries, it has become one of the leading medical journals of the world. It is likewise acknowledged everywhere to be the type of what a reputable medical journal should be.

In the editorial columns topics of current medical interest are discussed, and great efforts are made to supply members with early, accurate and complete information on all questions scientific, political or social affecting the profession. The editor is ably assisted by a large staff of experienced writers, experts and specialists. Special correspondents supply news from the principal foreign countries and the British colonies.

A great part of the space of the *British Medical Journal* is devoted to articles on medicine, surgery and pathology. In it are published each autumn the addresses delivered before the annual meeting, and reports of the discussions which take place in the sections. Clinical lectures and papers, shorter notes from private practice are published at other seasons of the year. The clinical and scientific work done by the Divisions and Branches of the Association, as well as by the principal medical sections in the United Kingdom, are reported in the body of the *Journal*.

The appearance of the *Journal* is fairly indicative of its worth and importance in the field of medical journalism. With the first number of 1906 improvements were introduced in the style of printing, which add to the ease with which it is read.

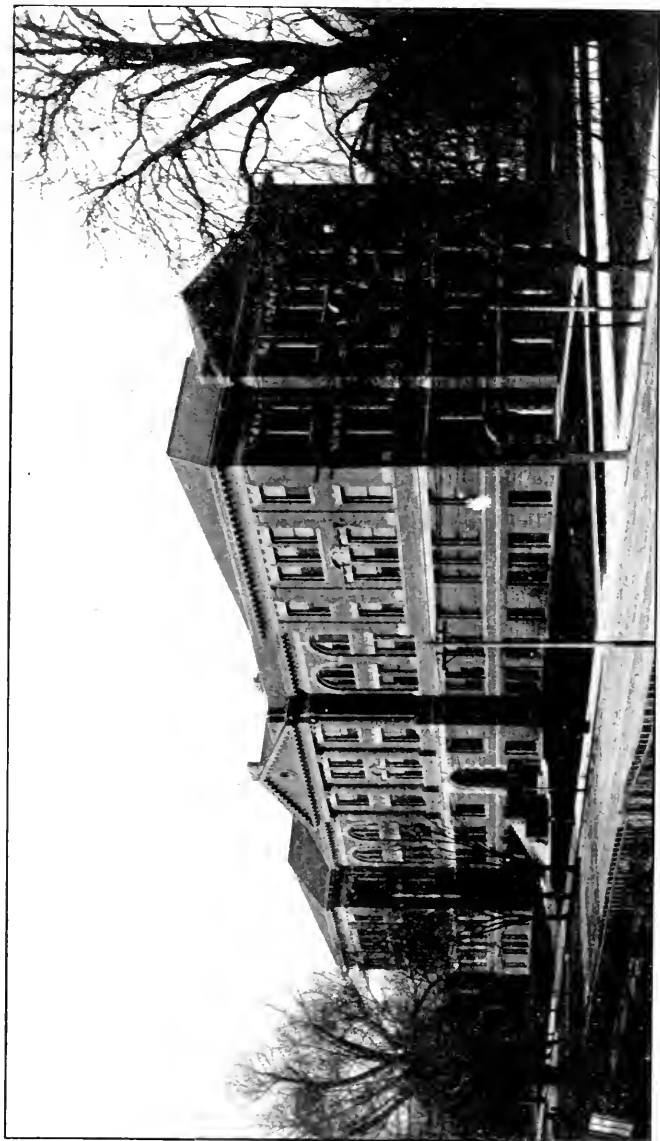
The issue of the *Journal* is now 23,000 copies. It is published weekly in London, and is sent post free to all members of the Association, whether resident in the United Kingdom, in British colonies, or in foreign countries.

J. J. C.

SOME OF THE LEADING FACTS IN THE HISTORY OF THE BRITISH MEDICAL ASSOCIATION.*

THE British Medical Association, which will hold its seventy-fourth annual meeting at Toronto, August 24-26, 1906, is considered to be the largest and most influential medical association in the world. It seems opportune, therefore, to present, in the current number of THE CANADIAN JOURNAL OF MEDICINE

*For the facts and data which appear in these articles we are indebted to an abstract from the *British Medical Journal* dated June 19th, 1897, entitled "A Cursory Survey of the history of the British Medical Association from its Institution to the Present Time," and also to the *British Medical Association Year Book*, 1906.



SCHOOL OF PRACTICAL SCIENCE, CHEMISTRY AND MINING BUILDING.

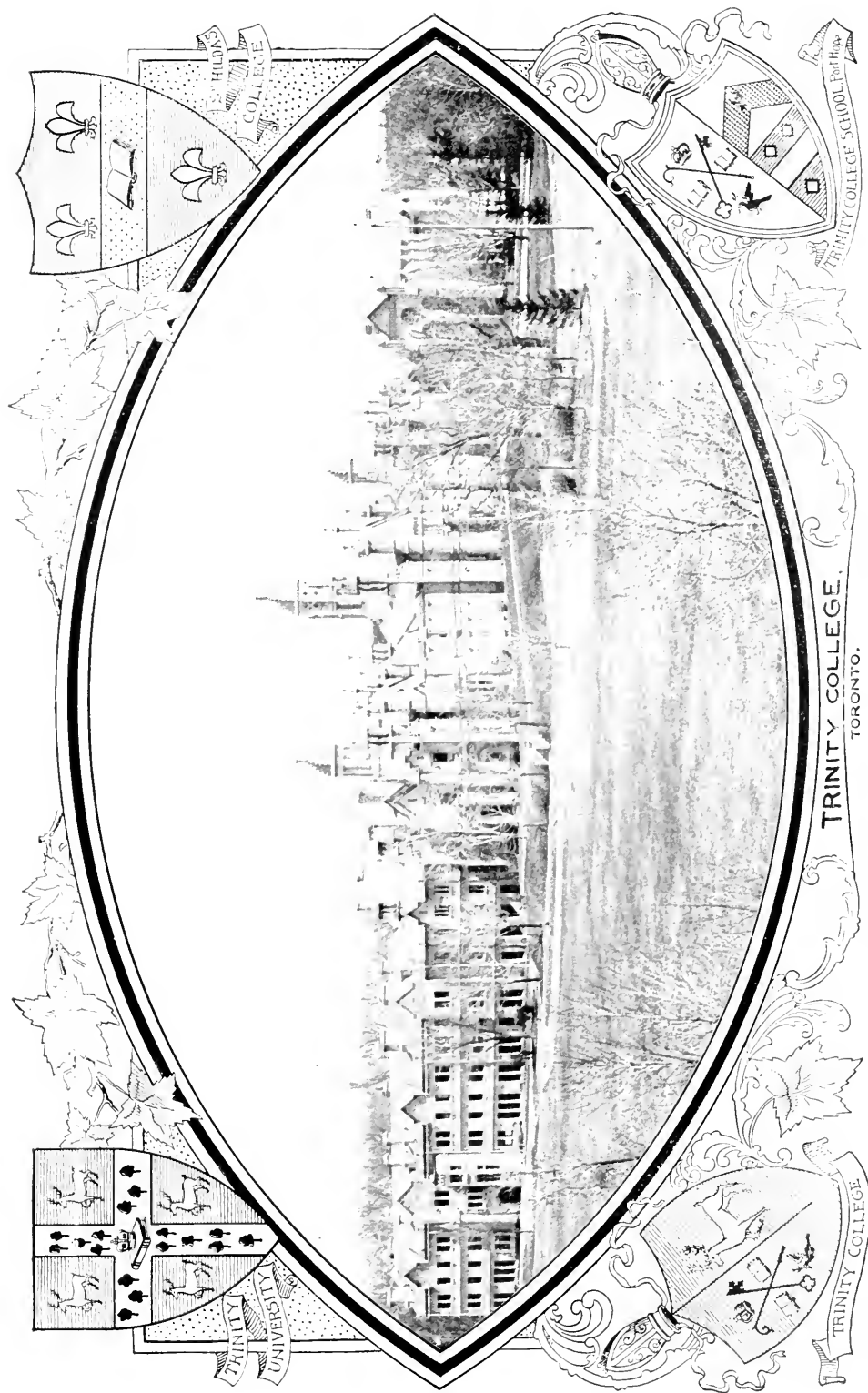
The Canadian Journal of Medicine and Surgery.

AND SURGERY, some of the main facts in the history of this celebrated association, including some of the ups and downs it encountered before reaching its present influential position.

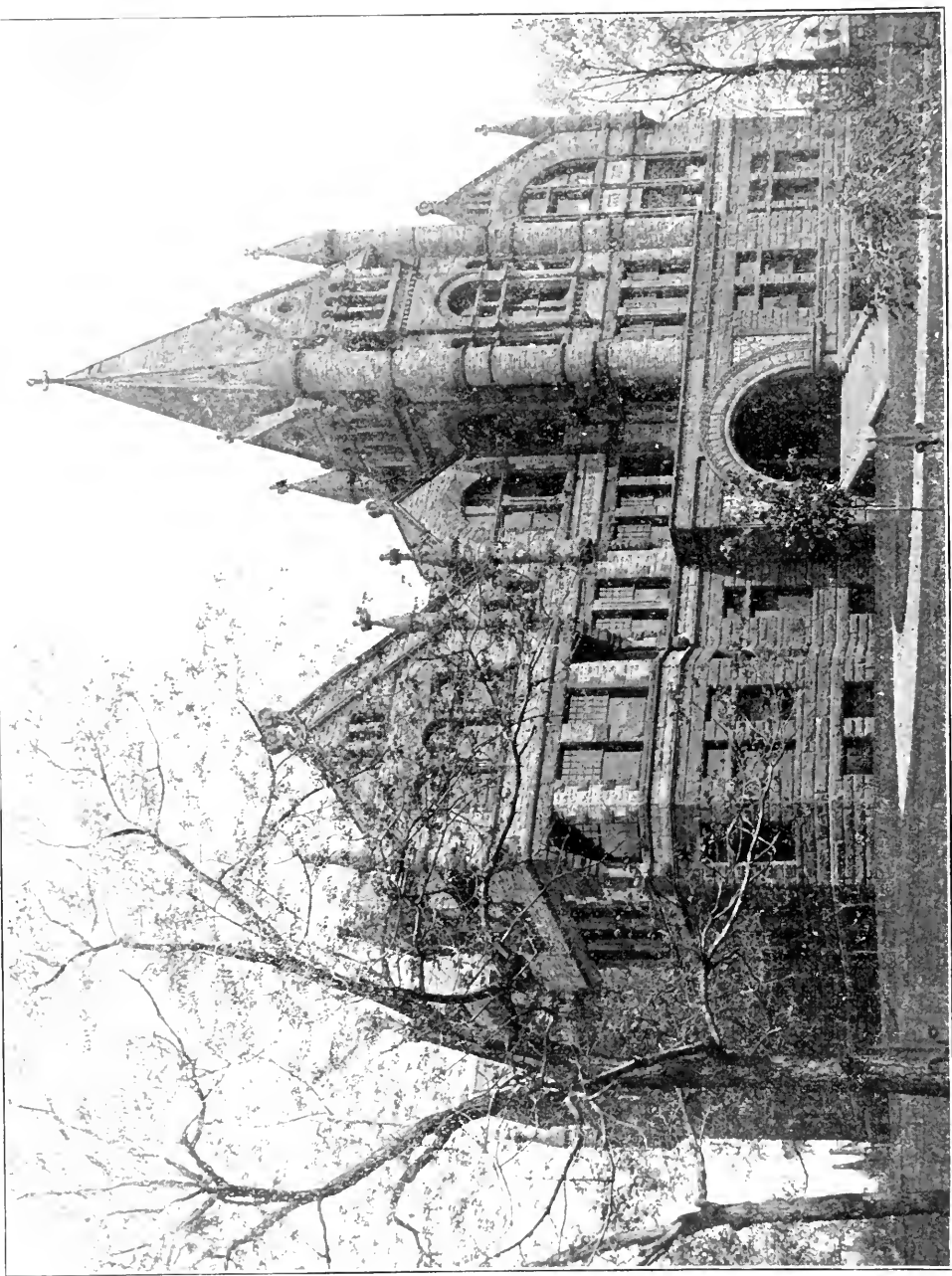
The British Medical Association, originally designated "The Provincial Medical and Surgical Association," was founded at Worcester (Eng.), on July 19th, 1832. On that day, fifty medical men attended a meeting at the Worcester Infirmary, convened by Dr. (afterwards Sir) Charles Hastings, to consider the formation of the proposed Association. After pointing to the avidity with which the proposal for such a society had been received as an omen favorable to the undertaking, Dr. Hastings outlined the work, which it was hoped that the Association might accomplish, under the following general heads:

(1) Advancement of Medical Science: generally by the collection of useful information, by means of original essays and reports of hospitals and similar institutions, and of private practice, (*a*) medical topography, (*b*) the investigation of endemic and epidemic disease, and (*c*) medico-legal science.

(2) The maintenance of the honor and respectability of the profession by promoting friendly intercourse and free communication among its members. Under this head with regard to medical ethics, attention was drawn to the fact "that with the exception of a few essays, no attempt had been made to establish a code for the guidance of those needing such direction. In a well-organized profession there could be no difficulty in adopting to its exigencies the doctrines of general ethics." With reference to medical politics attention was called to the fact "that the organization of the profession which obtained was not what it should be; the whole system of medical polity in England was both defective and erroneous. Opinions differed widely as to the evils and remedies, but few commended the existing state of things. The subject was closely connected with the advancement of science, for, if the profession were constituted as it ought to be, the harmony that would be established could not fail to be a direct means of more cordial and efficient co-operation in extending the science and improving the practice of medicine. During the first decade of its existence annual meetings were held at Bristol (1833), Birmingham (1834), Oxford (1835), Manchester (1836), Chichester (1837), Bath (1838), Liverpool

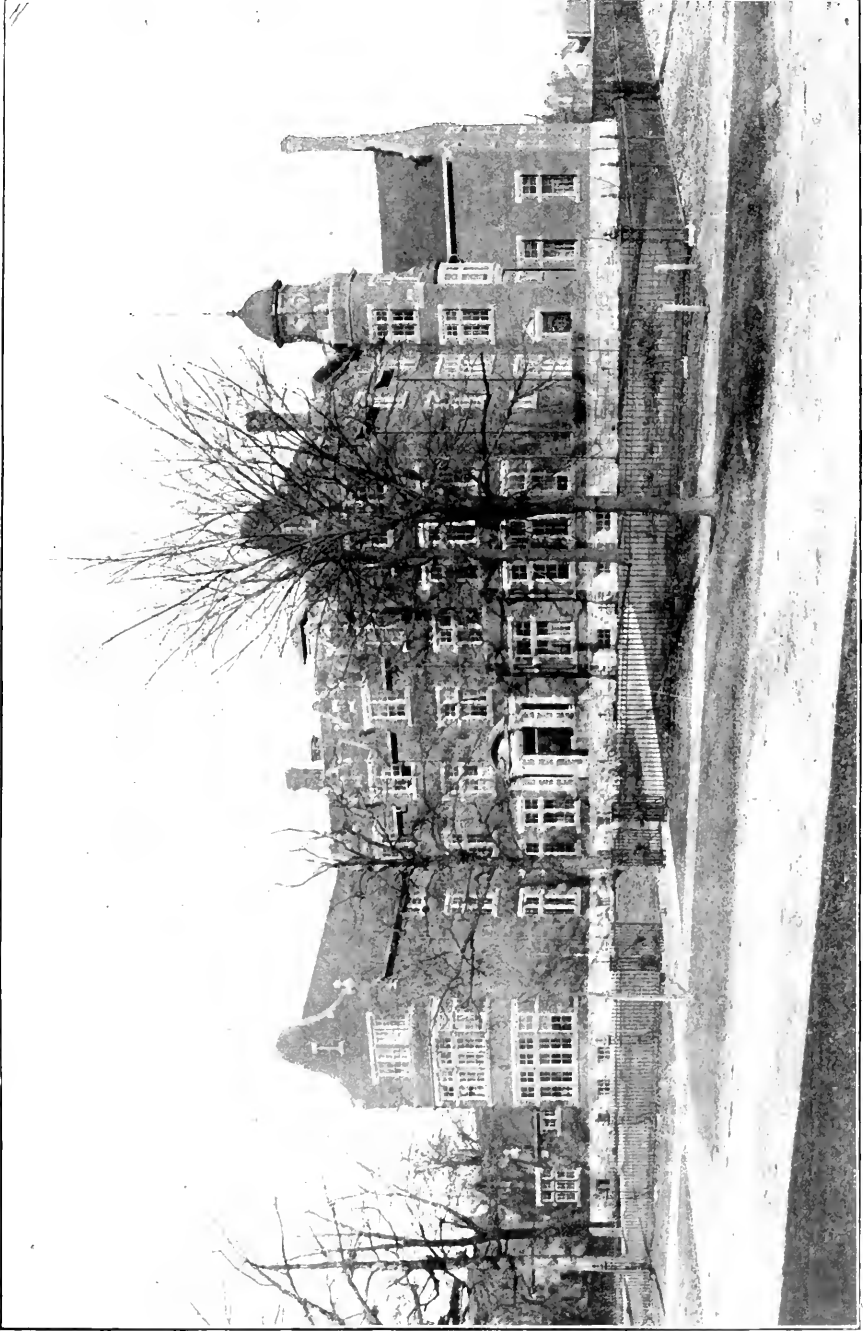


The Canadian Journal of Medicine and Surgery.



VICTORIA UNIVERSITY, QUEEN'S PARK.

The Canadian Journal of Medicine and Surgery.



ANNESLEY HALL—THE VICTORIA UNIVERSITY WOMEN'S RESIDENCE.

(1839), Southampton (1840), York (1841), Exeter (1842), Leeds (1843), and so on. From this time on towns in different parts of England began to vie with each other for the honor, as it had soon come to be considered, of entertaining the Association.

These annual gatherings served to bring together the best men, old and young, of each district, and as year after year, district was joined to district, so in direct proportion grew the acquaintance, good fellowship and friendship of practitioners from all parts of England.

It was not very long before the Association had become too large to be able to continue in its original lines, and it became necessary to divide it into "Branches," each to be in itself a fair representation of the parent Society—each to have its President, Secretary, Council, and its own by-laws, which were to be subject to the approval of the Council of the Association; and each to hold its own separate, ordinary and annual meetings, and to have its own representative or representatives, according to numerical strength on the Council of the parent Association. Of these Branches, the East Anglian and the Bath and Bristol seem to have been the first formed; Bath taking the lead in 1836, followed by Bristol in 1840, and these two becoming united, with a combined membership of 286 in 1842.

By the end of 1878, not only had the Association spread into Wales, Scotland and Ireland, but by the formation of the Jamaica Branch, the Colonies had put in their claim for representation. In the eighties thirteen colonial applications were received and granted. The Adelaide and South Australia in 1880; the Melbourne and Victoria in 1880; the Sydney and New South Wales in 1880; the British Guiana in 1883; the South Indian and Madras in 1884; the Bermuda in 1886; the Halifax and Nova Scotia in 1887; the Colombo and Ceylon in 1887; the Malta and Mediterranean in 1888; the Griqualand West in 1888; the Barbadoes in 1889; the Cape of Good Hope in 1889; the Bombay in 1889; the Punjab in 1889.

During the nineties the following Branches were formed: The Londonderry and North-West of Ireland in 1890; the Leeward Islands in 1890; the Burmah in 1891; the Hong Kong in 1891; the Montreal in 1891; the Manitoba and West of Canada in 1891; the Trinidad and Tobago in 1892; the Cork and South



KNOX COLLEGE, TORONTO.

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of Ireland in 1893; the Dundee and District in 1893; the South-east District of Ireland in 1893; the Grahamstown and Eastern Province in 1893; the Brisbane and Queensland in 1894; the British Columbia in 1894; the Deccan in 1894; the Gibraltar in 1894; the Malaya in 1894.

In 1875 the membership of the Association was	6,112
" 1885 " " " "	11,249
" 1895 " " " "	16,000
" 1905 " " " "	19,582

During all the early periods of its existence, far, indeed, into its life, a want of organization in the conduct of the affairs of the Association and divided administration tended to impede what might otherwise have been more rapid progress.

With editors in one place, treasurers in another, and secretaries, again, elsewhere, with offices in yet another, and with no settled abode anywhere, with no one to give business attention to the collection of subscriptions, it cannot be wondered at if the financial condition of the Association was a source of great anxiety and of much discussion at the annual meetings.

A Committee of Inquiry was appointed by the Association to examine into these matters. After several meetings the result of the deliberations of this Special Committee was handed to Council, and its judgment was summed up in the following recommendations:

That the office of the Association in Birmingham be closed and that the office be removed to London.

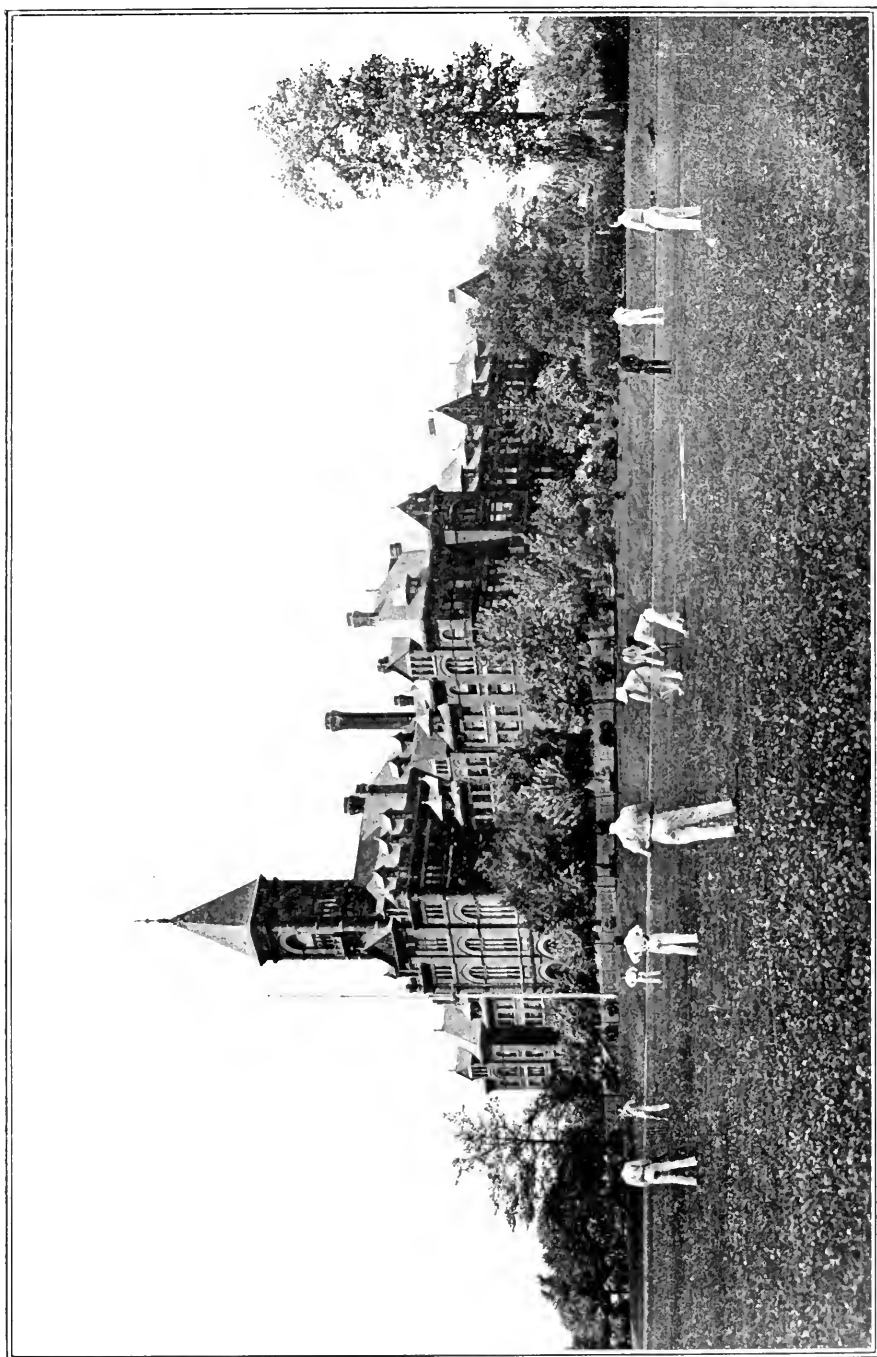
That the Secretary be replaced by a paid "General Manager," whose whole time should be devoted to the duties of the office.

That these should be the collection of the subscriptions from either the local Secretaries of the Branches, or from such subscribers, attached or unattached, to the Branches, as preferred to pay them through him.

To overlook and arrange for procuring advertisements for the *Journal*.

To be responsible for the keeping of the books and correspondence of the Association.

To overlook the office work, the printing of the *Journal*, and generally to manage the business of the Association, as distinct



UPPER CANADA COLLEGE, DEER PARK.

The Canadian Journal of Medicine and Surgery.

from the literary and editorial work of the *Journal*, with which, of course, he was to have nothing to do.

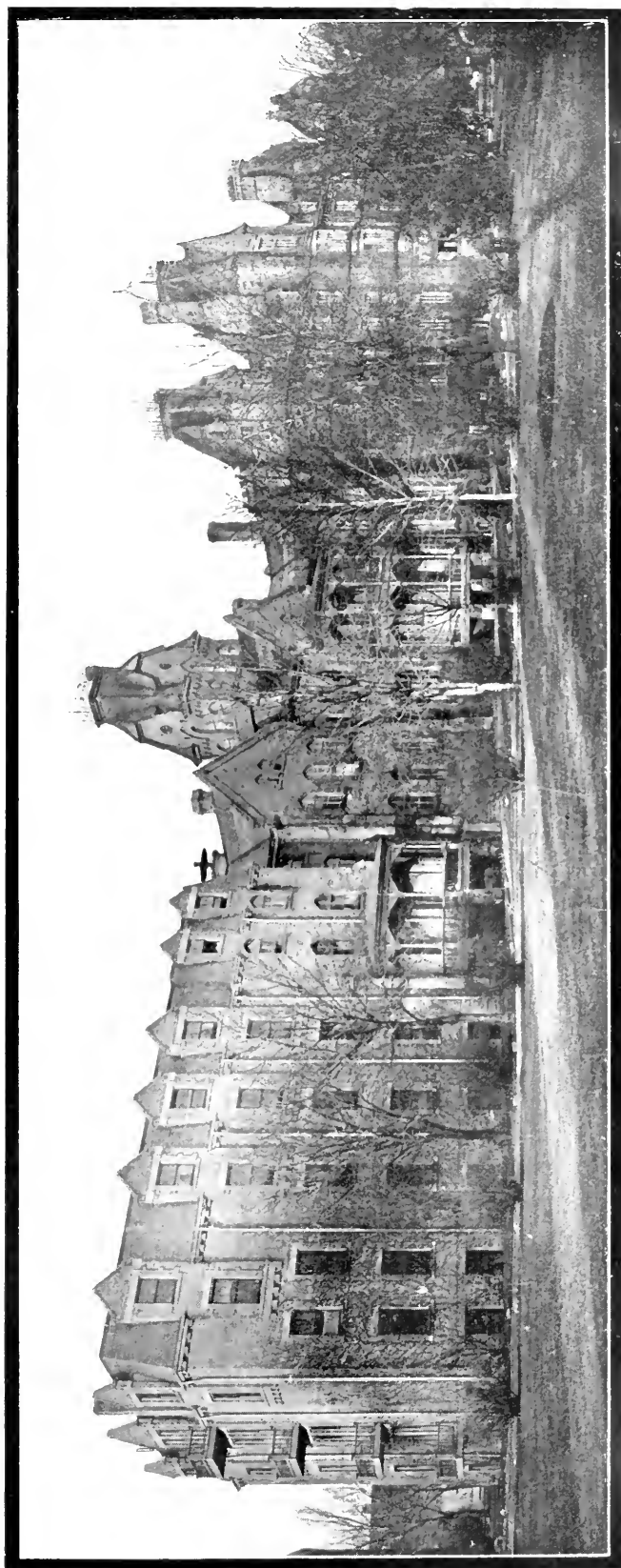
These recommendations were carried out, and the entire management of the business of the Association was transferred to London. Mr. Francis Fowke was appointed General Manager, and he entered upon his duties, January 1st, 1872. His was a difficult task. Nevertheless, he began his work with the determination to bring it to a successful issue, and, though he had to labor long and arduously before any great result was apparent, he had the satisfaction of seeing a tendency towards improvement from the beginning, and of knowing that he had the support of every member of the Council, and the good-will of all in the furtherance of his efforts.

At the close of 1871 advertisements produced £1,992; by 1881 they had risen to £6,089; by 1891 to £14,568. The issues of the *Journal* and the subscriptions for the same periods showed equally marked and encouraging results. In 1871 subscriptions amounted to £4,677; in 1881, £9,147; in 1891, £14,759, and up to the present time the increase is continuing in similar proportions, and the number of copies of the *Journal* of the British Medical Association, issued weekly, is now 23,000. It must be remembered, however, that the number of *Journals* issued does represent the number of members of the Association, as it includes, besides those devoted to the members, the sales in the office to private individuals, clubs and such like.

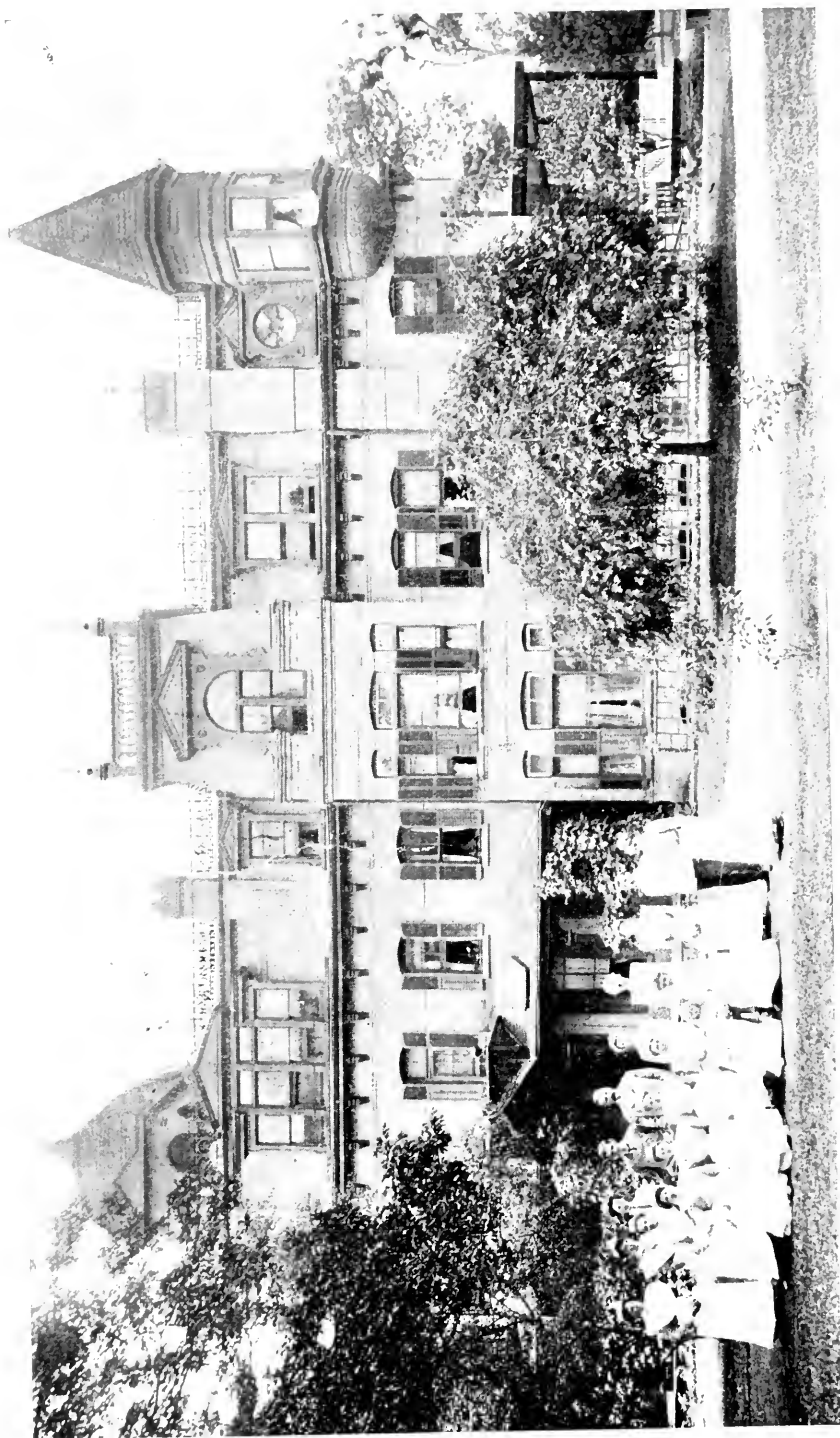
After a few years residence in Great Queen Street, the offices of the Association were moved to 16 L.A. Strand, where increased accommodation was secured for the General Manager and his clerks, and the more public business of the Association. These premises also provided a large room in which the Committee of Council could meet.

The printing of the *Journal* was taken over by the Association in 1879.

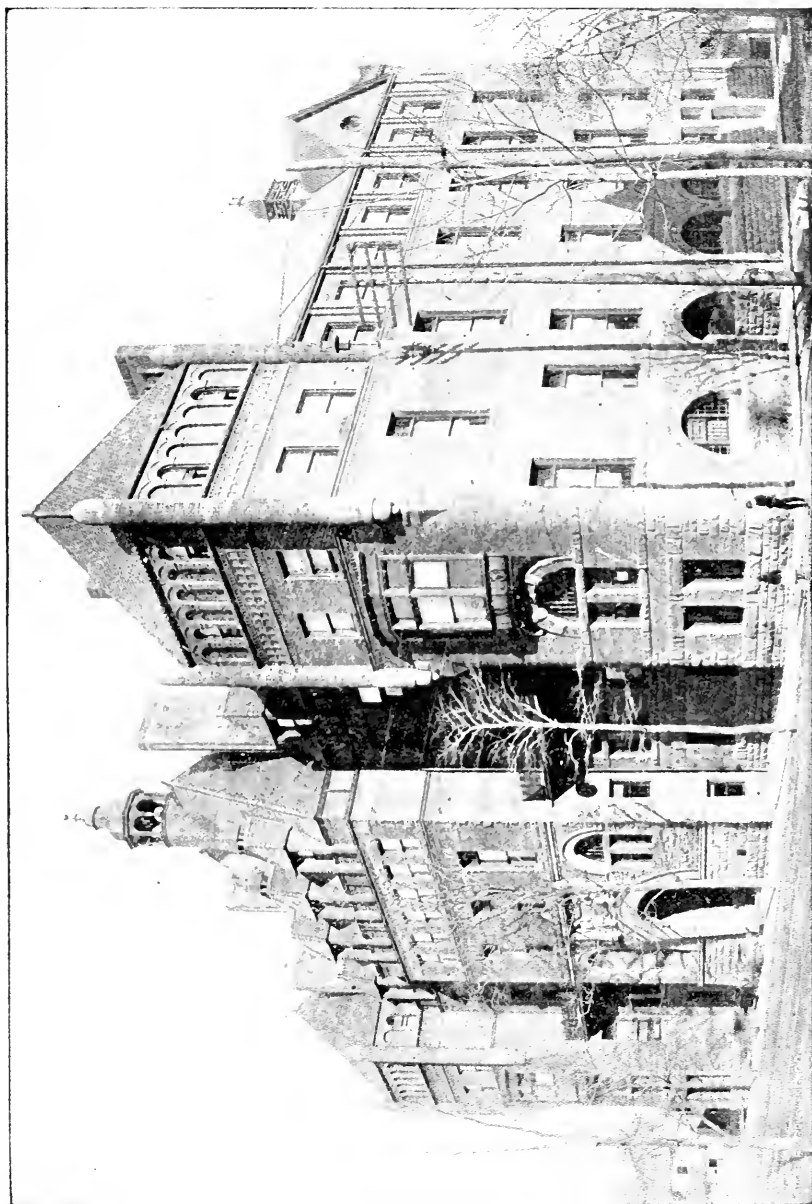
This last step necessitated another change of premises, and the establishment of the Association in its present home, in what had hitherto been the offices of the Briton Life Insurance Co., still in the Strand, with a second facade in Agar Street. With necessary alterations, the new premises afforded the space



TORONTO GENERAL HOSPITAL, GERRARD STREET EAST.
The Canadian Journal of Medicine and Surgery.



DR. MEYERS' PRIVATE HOSPITAL FOR NERVOUS DISEASES, DEER PARK, TORONTO.



HOSPITAL FOR SICK CHILDREN, COLLEGE STREET, TORONTO.
The Canadian Journal of Medicine and Surgery.

required, not only for commodious offices, but for a printing establishment as well.

Over these offices is the library of the Association, which contains some 9,000 volumes; an appointed librarian is in constant attendance. These handsome premises, a photograph of which appears at p. 45 of this issue, are as yet only leased; but it is likely that the Council will not relax its efforts to accumulate a surplus until the British Medical Association is in a position to purchase the freehold of the present property or some equally eligible one.

J. J. C.



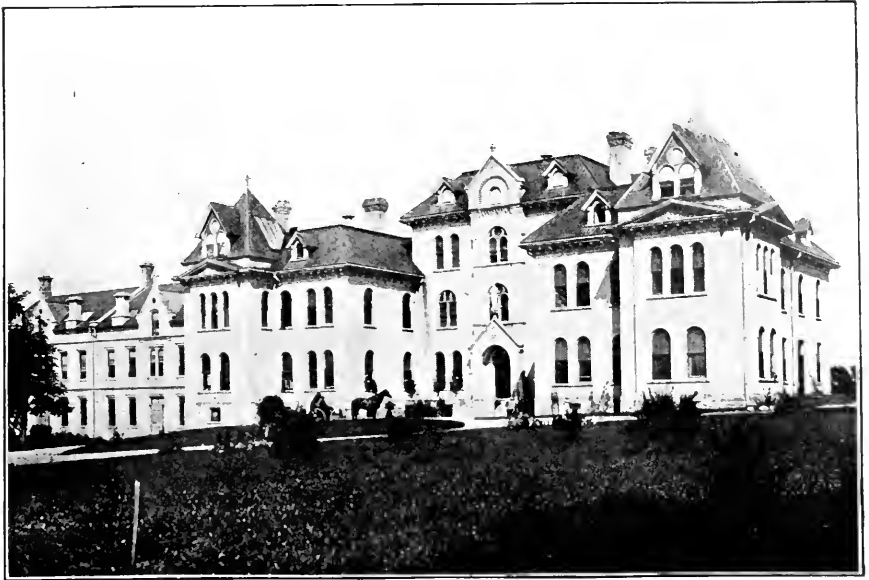
SUMMER QUARTERS OF THE HOSPITAL FOR SICK CHILDREN, HAYLAN'S POINT, TORONTO.



ST. VINCENT DE PAUL HOSPITAL, BROCKVILLE.
The Canadian Journal of Medicine and Surgery.



GRACE HOSPITAL, COLLEGE STREET, TORONTO.



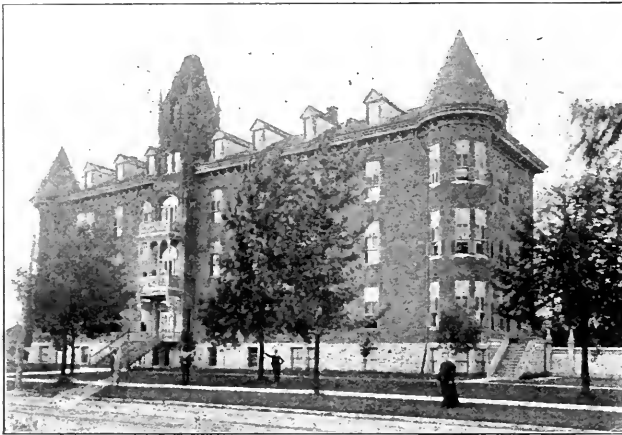
ST. JOSEPH'S HOSPITAL, GUELPH, ONT.



ROSS MEMORIAL HOSPITAL, LINDSAY, ONT.

THE CANADIAN NORTH-WEST, ITS CLIMATOLOGY AND OPPORTUNITIES.

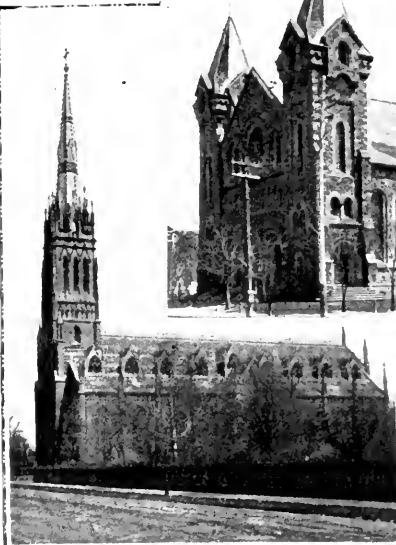
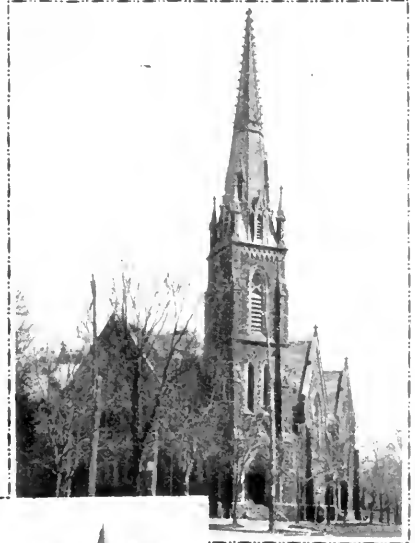
It was suggested by an esteemed Canadian physician, now resident in Oxford, that this journal gather some reliable facts as to the climatology and farming facilities of the great West, and publish them in the interest of those Old Country physicians who are so frequently appealed to by parents in regard to sending sons, as settlers, to this new country. Life in Western Canada is strenuous, health-giving and inspiring, to-day a wilderness, to-morrow a wheat field, the next day a thriving settlement. A



HOTEL DIEU HOSPITAL, WINDSOR, ONT.

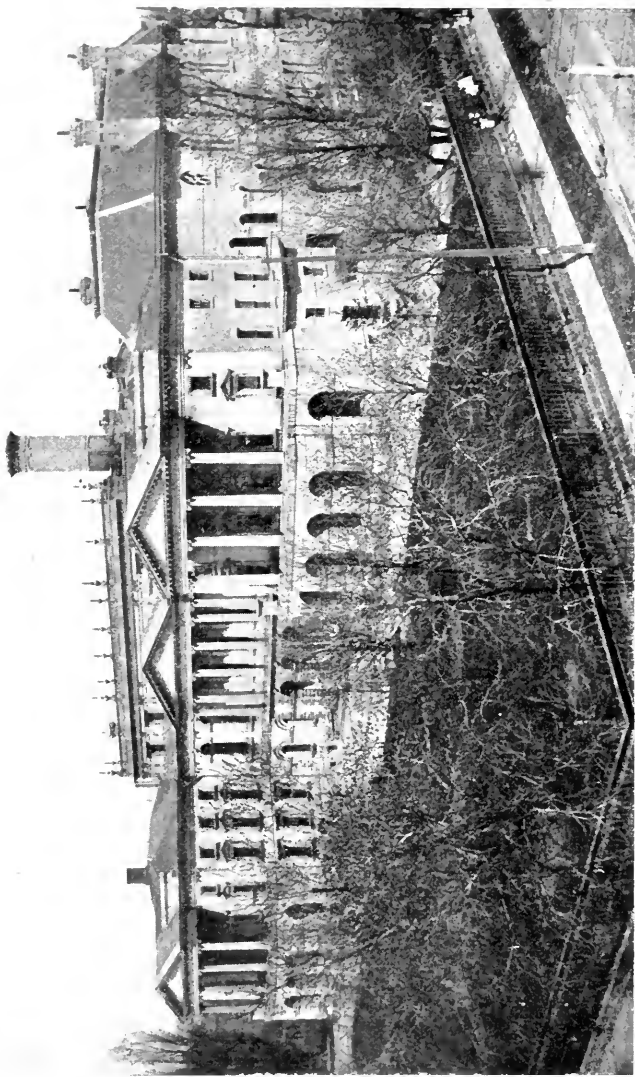
perfect network of a railroad system has superseded the long, tedious jaunts by stage or cart. Provided the man is young, strong, willing to work and has sufficient means to establish himself in a cattle ranch or farm, his prospects are good. A man nervous with the strain of a city life, cumbered with a wife and sickly young children, had better far stay in the Old World, where others have ploughed for him and home comforts surround him. Such a settler is unsuited to the life of the West, and a nuisance to the Canadian people, who are too busy themselves building their own "camp fires" to listen to his tale of disappointment.

When we consider that the three Provinces of Manitoba, Saskatchewan and Alberta, and incidentally New Ontario, cover



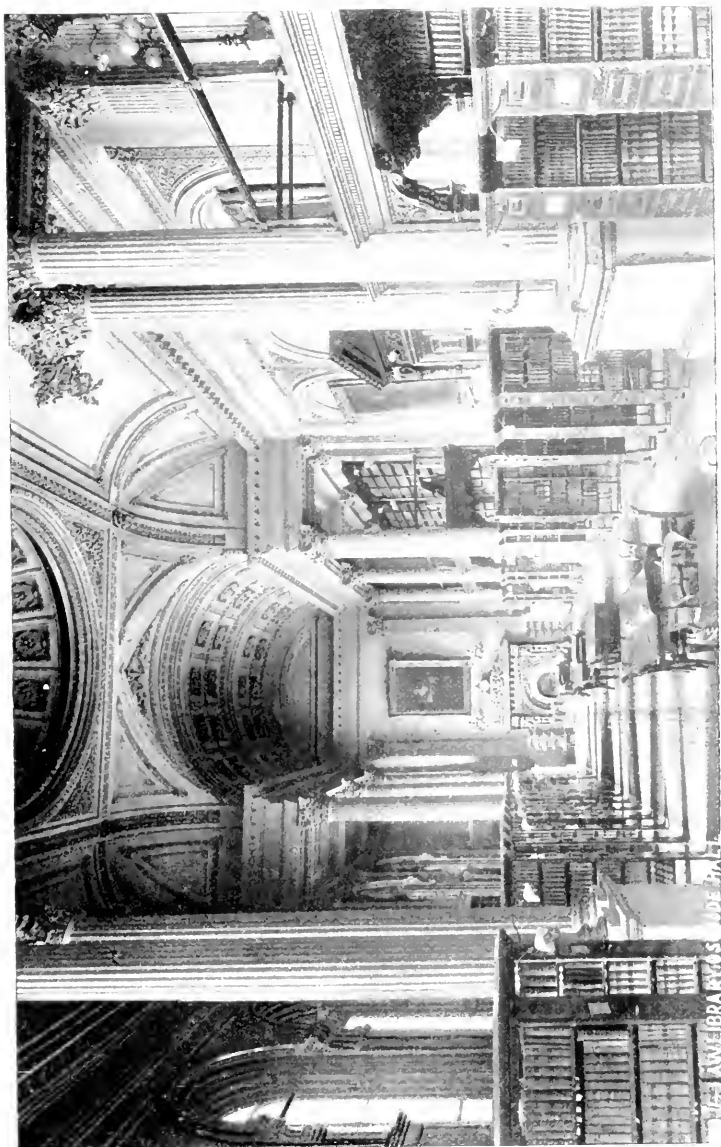
A FEW OF THE TORONTO CHURCHES.

The Canadian Journal of Medicine and Surgery.



OSGOODE HALL, TORONTO LAW COURTS.

The Canadian Journal of Medicine and Surgery.

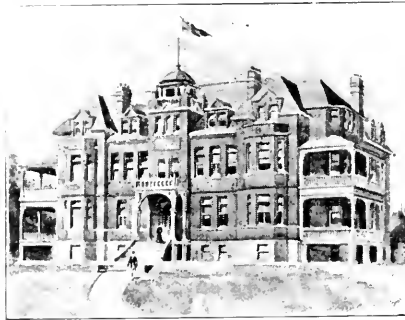


LIBRARY, OSGOODE HALL, TORONTO.

The Canadian Journal of Medicine and Surgery.

in round numbers 600,000 square miles and embrace within their combined limits the available agricultural and ranching regions of Western Canada, it is easy to grasp the full significance of the exodus to Canada from European countries, the sister Colonies and the United States.

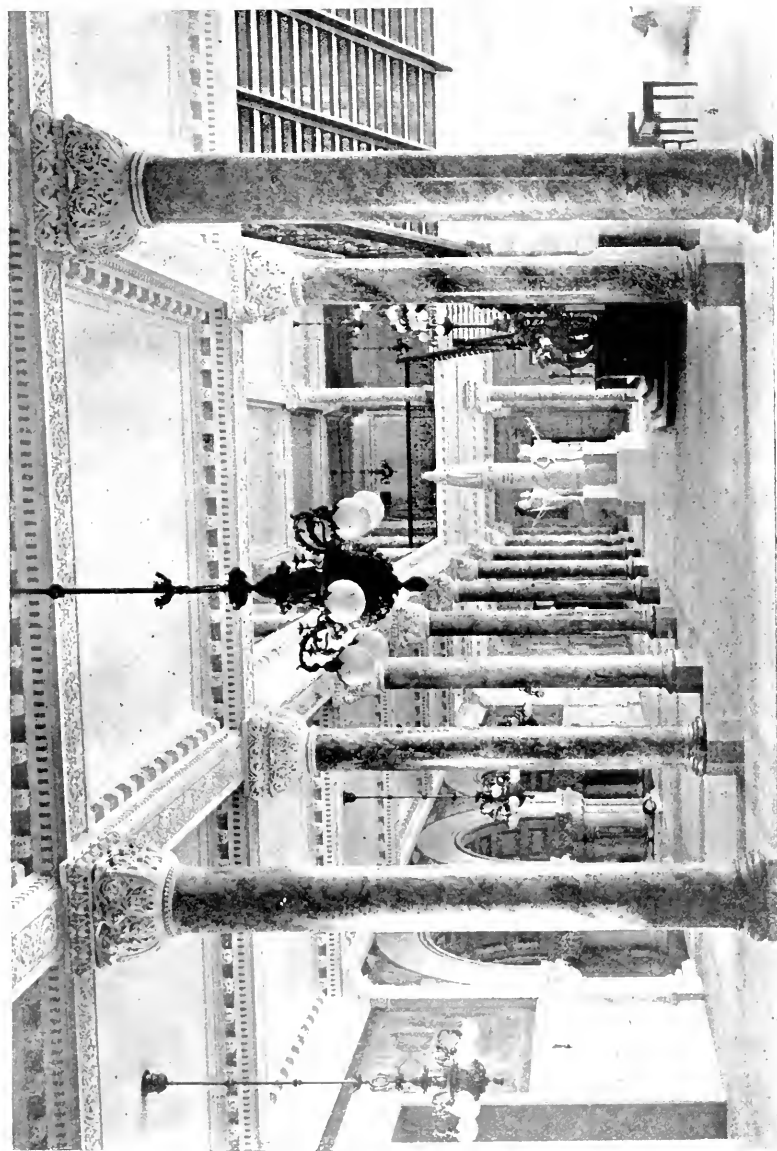
Wrong impressions frequently prevail regarding the climate and physical features of the great Canadian West, but a glance at any map having climatic lines will show that Edmonton has as high an average temperature as St. Paul—that Northern Michigan and Manitoba have similar temperatures—that as we go north-west the climate is modified by the influence of the winds from the Pacific. The mean temperature for July in Winnipeg



ROYAL VICTORIA HOSPITAL, BARRIE, ONT.

is 66 deg., which is higher than in any part of England. The average diurnal range is also much greater than in England, being from a maximum of 78 degrees to a minimum of 53 degrees. This high daily temperature during the growing months, with the long hours of sunshine, matures the crops quickly. In Alberta the climate is dominated by the warm chinook winds. Little snow falls, and both cattle and horses can remain outside the entire winter, living on the sun-cured buffalo grass which covers the plain like a carpet.

The surface of Western Canada slopes to the east with a slight tilt to the north—the rivers finding their way to Hudson Bay. From the mountains on the west to the granite country of New Ontario on the east stretches one vast, alluvial plain. This plain is watered and drained by three great river systems—the Red and



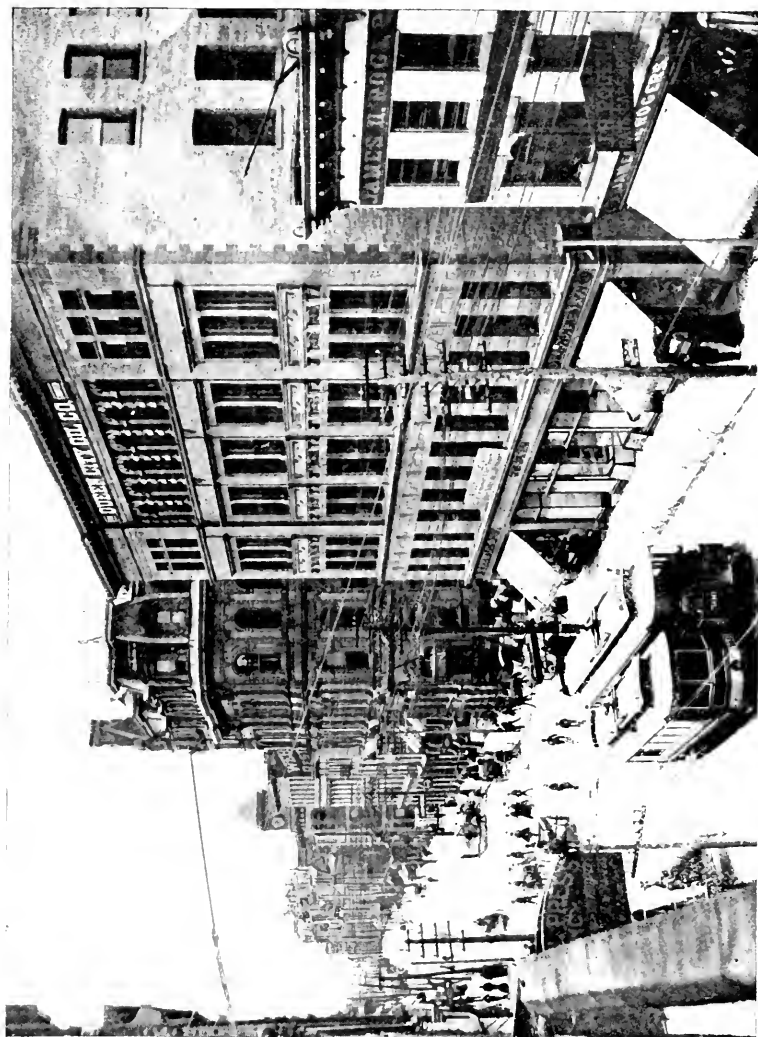
MAIN CORRIDOR, CITY HALL, TORONTO.

The Canadian Journal of Medicine and Surgery.



TORONTO STREET THE WALL STREET OF TORONTO.

The Canadian Journal of Medicine and Surgery.



NEAR CORNER OF KING AND YONGE STREETS, TORONTO.

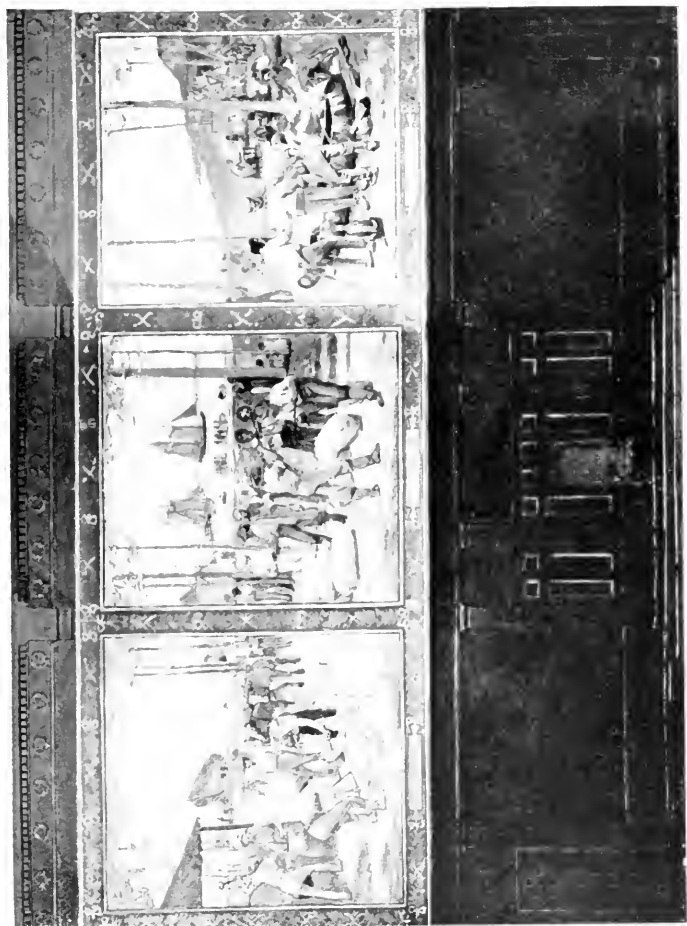
The Canadian Journal of Medicine and Surgery.

the Assiniboine in Manitoba, the Saskatchewan in Southern Alberta and Saskatchewan, and the Peace and Athabasca in Northern Alberta. These river systems make of this inland empire one vast network of intersecting valleys. To these topographical features and the mild climate is due the remarkable productivity of the soil.

As regards the soil of North-western Canada, Prof. Shaw, an eminent agriculturist writer, says: "The first foot of soil in the three provinces of Manitoba, Saskatchewan and Alberta is its greatest natural heritage. It is worth more than all the mines in the mountains from Alaska to Mexico and more than all the forests from the United States boundary to the Arctic Sea, vast as these are. And next in value to this heritage is the three feet of soil which lies underneath the first. The subsoil is only secondary in value to the soil, for without a good subsoil the value of a good surface soil is neutralized in proportion as the subsoil is inferior. The worth of a soil and subsoil cannot be measured in acres. The measure of its value is the amount of nitrogen, phosphoric acid and potash which it contains, in other words, its producing power. Viewed from this standpoint, these lands are a heritage of untold value. One acre of average soil in the North-west is worth more than twenty acres of average soil along the Atlantic sea-board. The man who tills the former can grow twenty successive crops without much diminution in the yields, whereas the person who tills the latter must pay the vender of fertilizers half as much for materials to fertilize an acre as would buy the same in the Canadian North-west in order to grow a single remunerative crop."

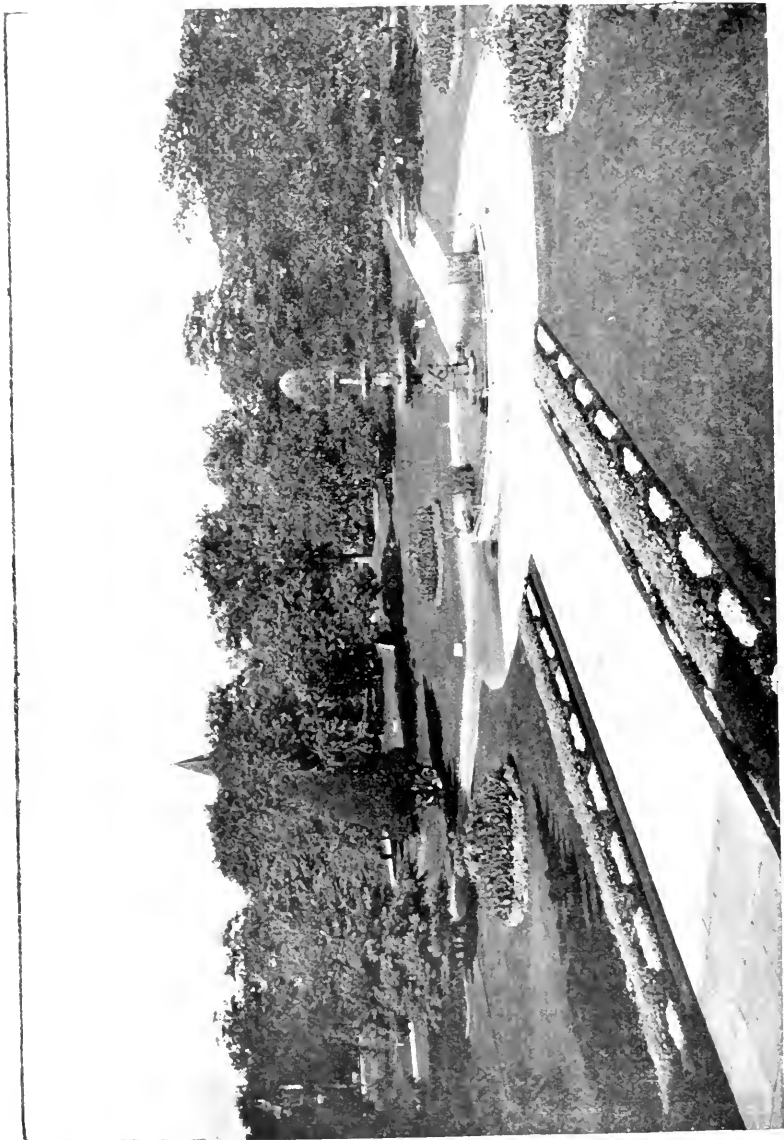
Of the three Provinces referred to, Manitoba is the oldest. It is the smallest of the Western Provinces, measuring but 65,000 square miles, yet is as large as England, Scotland and Ireland, and has 27,000,000 acres of arable land, less than one-sixth of which is under plough. The natural resources of the country are as great as those of any other part of the North American continent. The soil is a rich black loam of great strength and depth, that of the Red River Valley being particularly well adapted for the growth of wheat.

The two new Provinces of Alberta and Saskatchewan contain



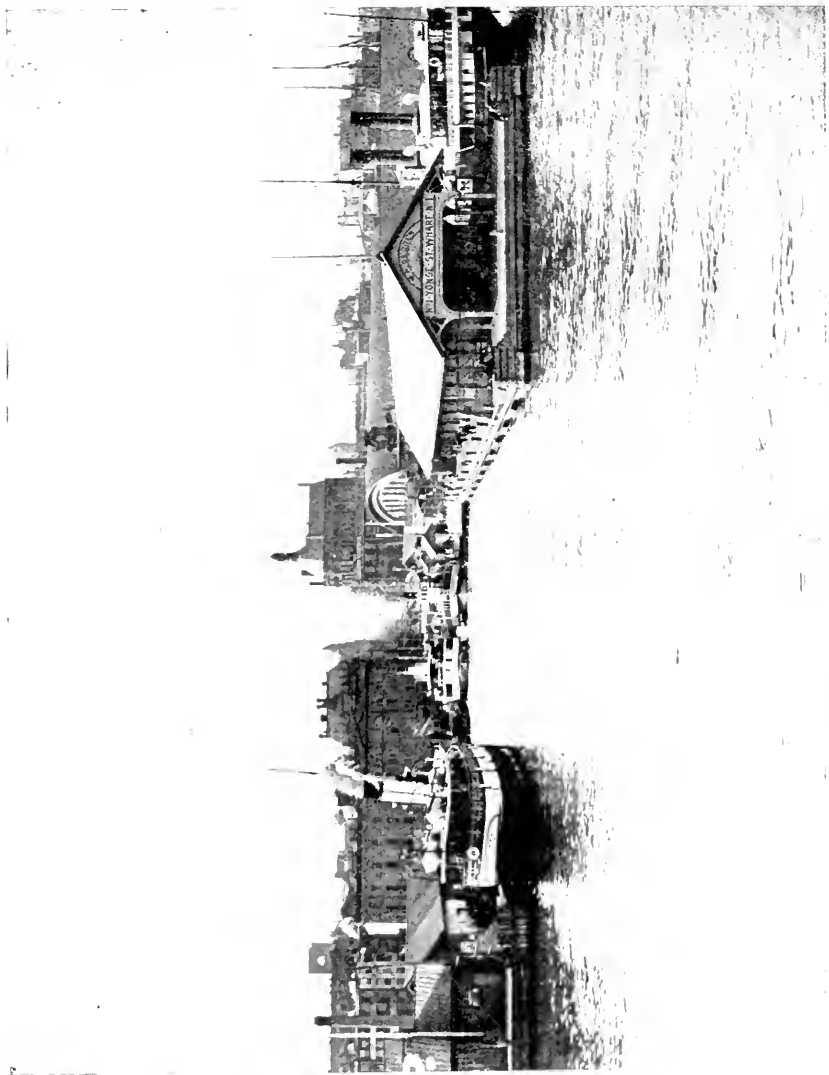
MURAL DECORATION, CITY HALL, TORONTO.

The Canadian Journal of Medicine and Surgery.



HORTICULTURAL GARDENS, TORONTO.

The Canadian Journal of Medicine and Surgery.

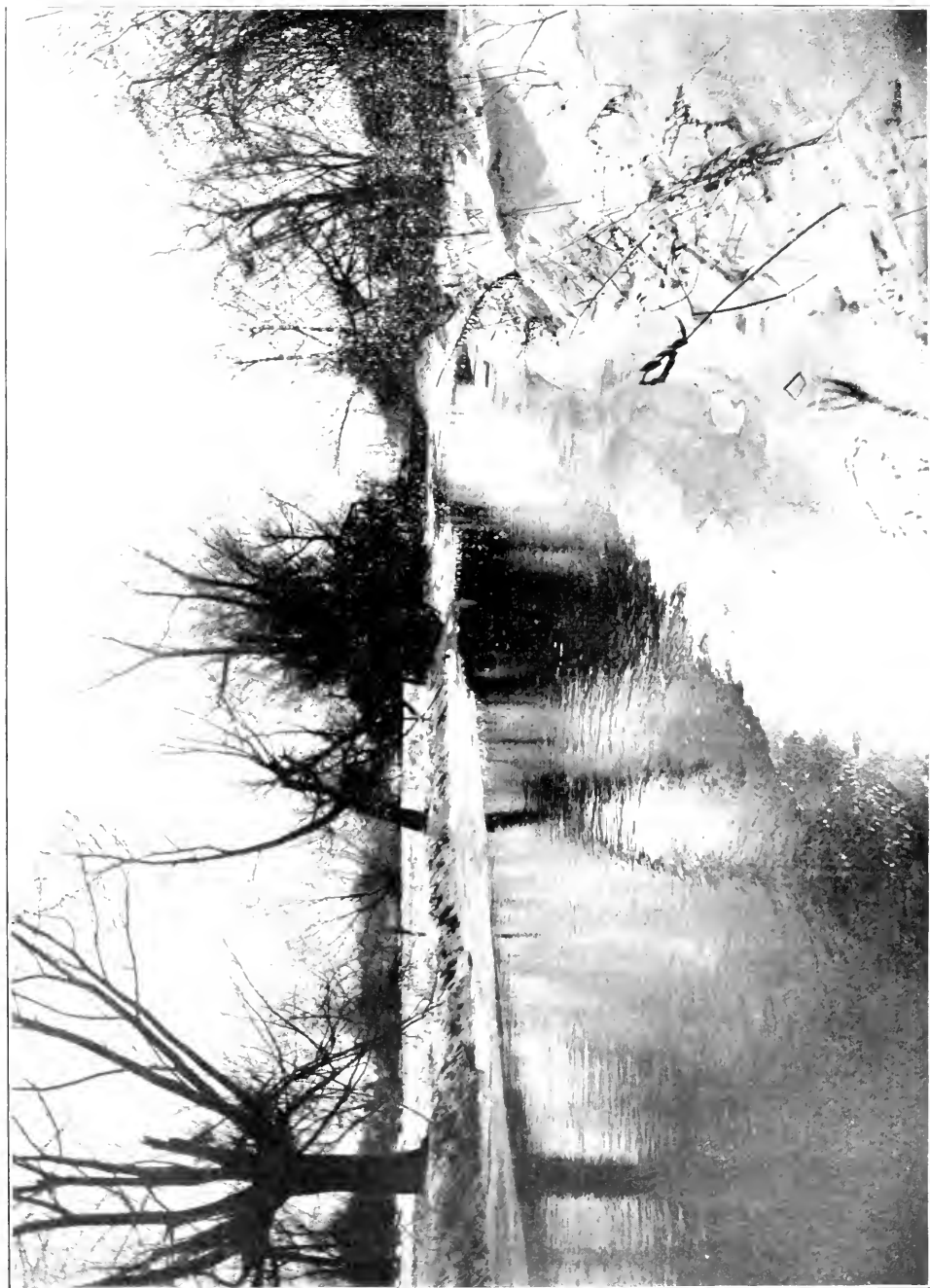


YONGE STREET WHARF, TORONTO.

The Canadian Journal of Medicine and Surgery.

between them the largest unbroken tract of wheat-growing land to be found on the American continent. A large area of desirable free grant land has been opened up for homesteading. The Province of Alberta is situated immediately east of the Rocky Mountains and north of the State of Montana, covering an area of about 253,000 square miles. It is characterized by a mild climate in winter and cool breezes in summer. Its location gives it the benefit in winter of the chinook winds, which follow a north-easterly direction from the current in the southern Pacific Ocean, whence they receive their warmth. The snow in winter rarely lies longer than four or five days at a time, when it is melted by this wind, thus making the winters mild and filling the creeks and ponds with water for the stock on the ranches. In the summer these creeks are constantly supplied with water from the melting snow in the mountains, so that during the summer and winter there is always to be found an abundance of water for grazing and all other purposes. The grain raised in the Edmonton district does but little more than supply local requirements. The cool temperature in summer, with the grasses and pure cool mountain streams mentioned, make Alberta one of the best countries to be found for cheese and butter-making, and it is rapidly becoming as noted for such industries as for its ranches. There are countless herds of fat cattle on the ranges of Southern Alberta, which at any season are neither fed nor sheltered. The ranching industry in Southern Alberta seems, however, to be undergoing a radical alteration. The rancher is giving way to the mixed farmer. Some of the larger men are realizing on their property, and are being replaced by farmers who have some of their land under crop, but keep a herd of cattle as well. The Alberta horse has already become noted for endurance, lung power and perfect freedom from hereditary and other diseases. Thoroughbreds from Great Britain and Kentucky, Clydesdales from Scotland, Percherons from France, and trotting stock from the United States have been imported at great expense, with the result that the young horse of Alberta will compare with any in Canada.

The valley of the Province of Saskatchewan, which extends from the Rocky Mountains to Manitoba, contains some of the most fertile soil in the world. This newly-formed Province

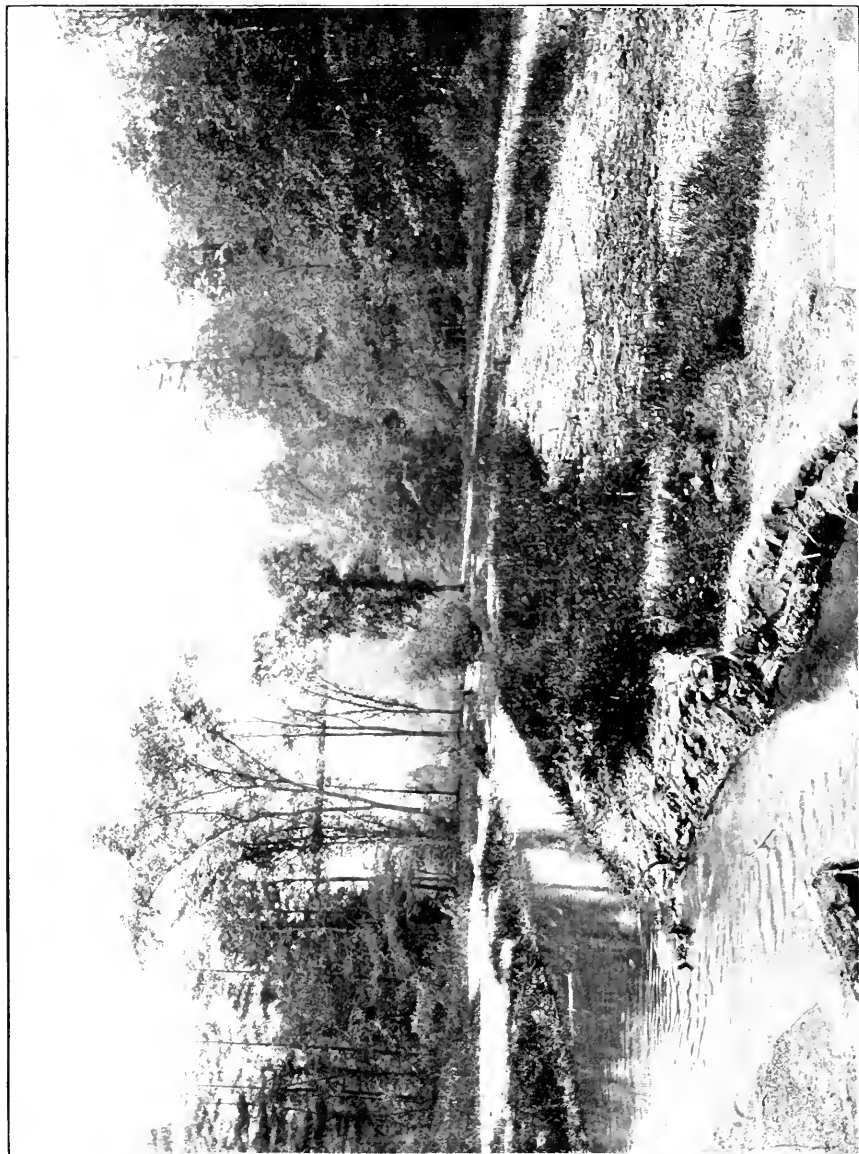


HUMBER RIVER IN WINTER (NEAR TORONTO).
The Canadian Journal of Medicine and Surgery.



A BIT OF ROSEDALE, TORONTO.

The Canadian Journal of Medicine and Surgery.

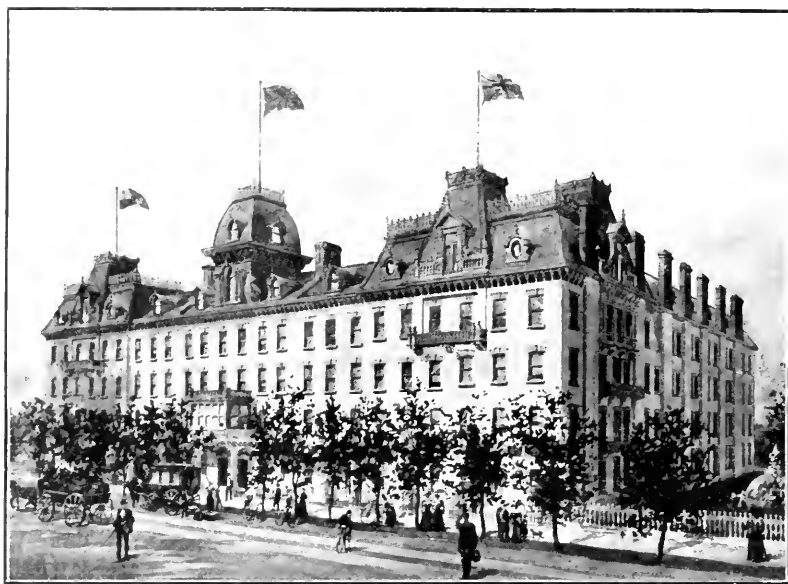


ROSEDALE RAVINE, TORONTO.

The Canadian Journal of Medicine and Surgery.

embraces a large portion of the valley and extends south to the international boundary. The total area of the Province is about 251,000 square miles. Throughout this district are many thriving settlements, in which are located a large number of prosperous settlers.

The new-comer to the Canadian North-west has the choice of three ways of securing a farm. He may homestead; he may buy land from the Canadian Pacific Railway or other holders; he may rent an already established farm. Good land may be purchased

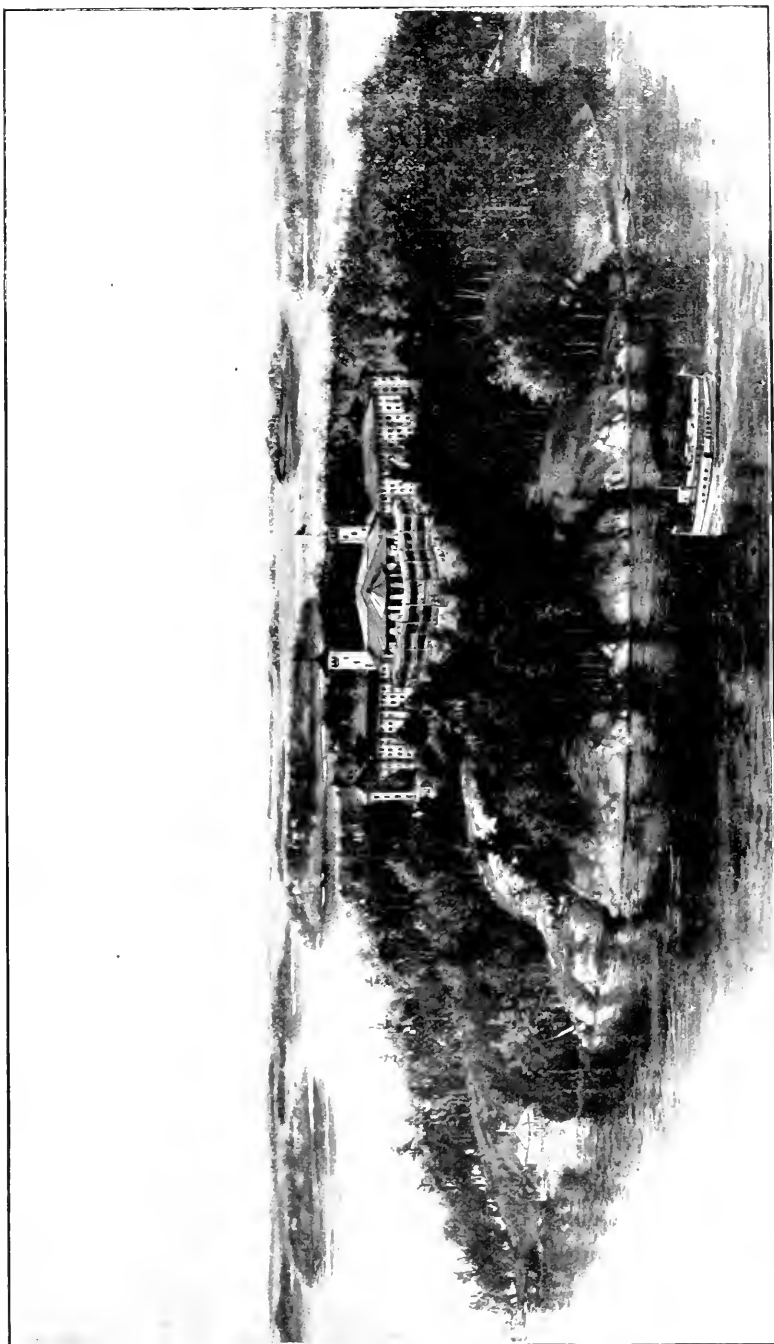


QUEEN'S HOTEL, TORONTO.

on easy terms and at reasonable prices, ranging from \$5.00 to \$20.00 per acre. Homesteads can still be secured on the outskirts of settlements in districts adapted for mixed farming and stock raising, where hay and water are abundant and timber for building purposes is conveniently obtainable.

The following figures are eloquent of the crop areas and total yields for 1905 in Manitoba, Saskatchewan and Alberta:—

	Area in crop	Average yield per acre.	Total yield bushels.
Wheat	4,019,000 acres	21.6	86,810,400
Oats	1,423,000 "	46.6	66,311,800
Barley	433,800 "	31.	13,447,800
Flax	34,900 "	13.7	478,130



ROYAL MUSKOKA HOTEL.

The Canadian Journal of Medicine and Surgery.

In addition, considerable quantities of peas and rye were produced, the yields being satisfactory, also the usual large crops of potatoes and other roots.

So bountiful are the harvests in the Canadian West that it is now necessary to bring in from Eastern Canada and elsewhere 10,000 to 20,000 farm laborers to work in the wheat fields. These earn good wages and many remain and become actual settlers themselves.

It must not be understood from the above that the Canadian North-west is a wheat country and nothing else. That is far from the case, for most that is produced in a temperate climate grows here abundantly. It is the natural home of the cereal and the garden root; for dairying it has no superior, and it is the stockman's paradise.

It has been well said that, "Next in value to the soil is the heritage of climate." No citizen of North-western Canada should be anxious to apologize for the climate of his country. Good as the soil is it would never have brought supremacy in grain production in this country had it not been for the climate. The blessing of the climate is threefold. It consists in the purity of the air, in the temperature of the same, and in the happy equilibrium in the precipitation. Every one knows the value of the pure air in this country, viewed from the standpoint of health. But does every one know as to the inestimable character of the blessing which pure air proves to the agriculture of the country? It prevents the rapid decay and transformation of the vegetable matter in the soil, and also the too rapid transformation of inert fertility, thus virtually preventing waste in the hand of nature. In this fact is found our explanation of the extraordinary fertility of the soil. The cool temperature of the summer nights is responsible for the large relative yields of the grain. Raise the temperature of the summer days and nights, and the yield of grain will be proportionately reduced. The relatively cool temperature is one of the agricultural glories of this land. The relatively light precipitation is also a great boon to the North-western farmer. It grows his crops and does not destroy them when grown. Nearly every portion of these three Provinces has a rainfall of 15 or 20 inches, enough to grow good crops of grain on



HARVEST SCENE IN THE NORTH-WEST.



REAPING--WESTERN CANADA.



CUTTING GRAIN IN MANITOBA.



"THE STOCKMAN'S PARADISE."



HERDING CATTLE IN ALBERTA.



ON THE SASKATCHEWAN.

farms that are properly tilled, and not enough to waste the fertility of the soil through cracking. In this another reason is found for the wonderful producing power of these lands.

From a consideration of facts relating to the Canadian Northwest, and that during the past year upwards of 150,000 people have entered the great region as settlers, one is inclined to believe that the opening up of the vast territories was, and continues to be, a boon to humanity, since it has enabled man to assert his manhood, in ownership and cultivation of the soil, and has placed within the reach of all opportunities for obtaining health and wealth, a condition of life unknown beneath some other skies.

World-weariness has no place in the great prairie land. The heart must be young, the step buoyant, and the soul of the youth must listen and hear the call of the wild ere it answers.

The Canadian Journal of Medicine and Surgery

A JOURNAL PUBLISHED MONTHLY IN THE INTERESTS OF
MEDICINE AND SURGERY

VOL. XX.

TORONTO, AUGUST, 1906.

NO. 2.

Original Contributions.

ACUTE ASCENDING PARALYSIS.—LANDRY'S PARALYSIS.

IRBY A. McPHEDRAN, M.B.,
Professor of Medicine, University of Toronto.

THE prevalence of this affection in this city during the past winter makes a discussion of it at this time opportune. The occurrence of cases with well-defined symptoms is rare, but there is a fair number in which the paralysis develops irregularly, while otherwise they closely resemble typical cases of Landry's Paralysis, and are doubtless of the same nature. The first case met with was seen with Dr. Powell in 1892, and I reported it at the meeting of the Association of American Physicians of that year. Since then the cases I have seen have been grouped in three several years—two in 1896, both recovering; two in 1904, both fatal; and three this year, one fatal. In the two seen in 1896 the symptoms were identical, and an abstract of the history of one will suffice.

W. C., aged 27, a carpenter, was admitted to Toronto General Hospital, 13th June, 1896. His previous history was good. On May 31st he was out in a heavy rain storm. Next day on rising he felt a "catching" in both legs which gradually grew worse during the day, and he tired easily. On June 2nd, on drawing up the legs there was a catching sensation and pain in the backs of the thighs. He used a stick in walking, and in the afternoon fell forwards in the street, but was able to get home alone. On June 3rd, his arms became weak. He did not sleep well all week, and he was just able to drag himself about. The bowels were constipated. June 8th, speech became affected, the tongue felt thick and swallow-

ing became difficult. He perspired a good deal. The bowels became so loose that he had practically no control over them, but there was no trouble with the urine. He was delirious on the evening of June 12th.

On entering the hospital, June 13th, the following entry was made:—

Pulse—110.

Temperature—99 4 5.

Respiration—22.

He can barely raise his head from the pillow. Face is anxious, slightly flushed and he is perspiring. The tongue moves freely but speech is thick. He has good control of linguals and the palate moves freely. On swallowing, solids seem to stick, but he has no difficulty in drinking. Body fairly well nourished. He can barely flex the arms but cannot raise them. Legs straight, looking flacid but healthy. Right foot slightly drooped. Extensor muscles of the right thigh respond slightly to irritation. There is no plantar, patellar, or cremasteric reflex, but a slight epigastric reflex. Sphincter ani reflex very slight. Sensation normal. On applying hot water to the back a slight hyperaesthesia in the lumbar region was evident. He had no appetite but he was very thirsty. Bowels open. He was troubled by the collection of mucus in the mouth. Liver enlarged; spleen palpable below the costal margin. Epitrochlear and cervical glands are palpable.

June 19th. He can flex the right arm and then raise it but cannot raise it without flexing. The left arm cannot be raised; raises head better than before; slight movement in both legs, better in the left. There is incontinence of urine. Electrical re-actions normal. Respiration is unaffected, the diaphragm and intercostal muscles being quite active.

During the three following days, the trunk muscles became so weak that he was unable to make any movement except a slight rotation of the head. The face remained unaffected. Both the diaphragm and intercostals became weak but not completely powerless, so that in inspiration there was slight movement of the epigastrium and some expansion of the chest. Swallowing became very difficult even for liquids, but if taken slowly they did not return through the nose or enter the larynx. His facial expression was very anxious and he realized the gravity of the condition.

June 22nd. He can raise both arms from the bed and also move the toes of both feet slightly, especially the left. Power of grasp increases. Faeces still pass involuntarily.

June 24th. His power of movement of limbs is improving. The sphincter ani has some power, he has control over the bowels. The muscles respond to a weak faradic current.

June 25th. He vomited 10 ounces of greenish fluid after taking

some soup which his friends brought him. He felt sick for two or three days.

June 26th. Vomited again at one a.m.

June 29th. Movements of the arms and toes better, some pain on flexing the leg. Sphincter ani almost normal.

July 1st. He moves both feet fairly freely, makes attempts to flex both thighs but cannot raise the knees from the bed. Is able to turn on the side with aid of his hands. There is soreness of all muscles of lower extremities. Superficial reflexes all exaggerated. Sensation normal. No tenderness of skin. Some tenderness of the muscles of the upper extremities but not so marked as in the lower.

July 6th. He can flex the knees slightly and moves the legs a little better.

July 10th. He can raise the head and bend the back fairly well. He can turn on his side and his grasp is stronger.

July 15th. Can flex legs well but patellar reflex is altogether absent as yet.

July 21st. Able to be up and walk across the room. Gait is somewhat shuffling and uncertain. No knee jerk. Muscles are still tender.

July 25th. He left the hospital to-day. Walk was shuffling but is gaining in strength; sleeps and eats well.

It is to be observed that the attack developed gradually; it did so in all the cases I have seen in which recovery took place. Certainly the more acute the onset, the worse the outlook.

CASE 3, seen in 1896, was identical with the case just detailed.

CASE 4. The most marked case seen was that of the son of a physician in this city. S. D., a lad eighteen years of age, was remarkably well developed and in every way was a boy of exceptional character and great promise. He first felt indisposed on Saturday, August 27th, 1904, but did duty at the bank in which he was employed and played cricket in the afternoon. He was not well on Sunday and Monday, but continued his usual duties. On Monday evening, his father, who had returned home after a few days' absence, was struck with his ill appearance. That night he was restless, had some fugitive pain and the skin was very sensitive. A hypodermic of morphine was given. The next day, August 30th, the temperature was 99, pulse normal, there was some vomiting and he had great hyperæsthesia over the lumbar region posteriorly. The right leg was markedly weak.

On the 31st, vomiting had ceased and the hyperæsthesia had shifted to the right iliac region. The right leg was almost completely powerless and there was some weakness in the left. Hands and arms normal. Morning temperature 99. By evening both legs were powerless and the left arm weak. There was retention of urine and the bowels were moved by enema.

September 1st. Both legs were paralysed completely and the left fore arm nearly so but there was fair movement in the arm. Some weakness of the right hand and arm. The trunk muscles weak but respiration was not affected. Temperature 101, pulse 90. By evening the left hand and fore arm were almost powerless, the right somewhat weaker. The intercostal muscles acting, but weak and restricted so that he complained of want of air. Swallowing not affected. Sensation normal and there was no pain. Temperature 103, pulse 90. Blood examination:—Red corpuscles, 4,500,000; Leucocytes, 11,400; Hemoglobin, 95%.

The differential count of the leucocytes showed:—Polymorpho-nuclear, 85; large mono-nuclear, 5; small mono-nuclear, 8½; eosinophiles, 1½.

September 2nd. Morning temperature normal, pulse 80, respiration rapid, shallow and labored. Lower extremities completely paralysed also left upper extremity except shoulder muscles in which there was some power. Right upper extremity weak. Intercostal muscles and diaphragm completely paralysed so that respiration had to be carried on by the muscles of the neck drawing upwards on the sternum. Artificial respiration gave some relief. Oxygen was unpleasant and made the throat sore. The mind was clear. Slight cyanosis. Condition continued much the same until death in the evening. There was no autopsy.

This case presents in a remarkable manner all the symptoms of Landry's Paralysis running an acute course.

A more distressing condition causing death it would be difficult to conceive. The struggle for breath was very great until the desire become lessened by the dulling of the senses by the gradual increase of carbonic acid in the blood. The marked, though short, fever shows that there was acute infection to which it is reasonable to attribute the rapidly ascending paralysis. The pain in the back and the hyperaesthesia make it probable that there was irritation of the posterior roots of the nerves and the slight leucocytosis was due to increase of the polymorpho-nuclear forms and probably caused by the infection.

CASE 5. I had the privilege of seeing this case with Dr. Bowie, to whom I am indebted for the following notes:

Emily M., aged 29, married, one child. Two weeks before this illness was treated successfully for tape-worm. Her illness began December 26th, 1904, with weakness in the legs. She was restless at night and had some pain in the legs but was able to stand next day. On the 29th, there was slight fever, legs quite paralysed, arms weak. The paralysis increased and involved the muscles of respiration. She died January 2nd, 1905.

When I saw her on the 29th, the third day of her illness, it seemed as if the progress of the malady would be rather slow and

the prognosis therefore, was regarded as, at least, not wholly hopeless.

CASE 6. J. McE., age 21, English. He was a shipping clerk in a warehouse and much exposed. His family are rheumatic and of a neurotic tendency. He had scarlet fever when a child but has been well since that time.

On February 1st he felt pain and stiffness in his shoulders and lower limbs, on rising. Within a few days it was so severe that he had to remain in bed. At this time there was marked weakness in lower limbs, especially in the left. On February 7th he noticed that his hands and arms were weak. The weakness gradually increased.

On admission to the hospital on February 12th he was unable to walk except with assistance. There was considerable pain and stiffness in the lower limbs and sacral region. The left patellar reflex was absent, the right was normal. Sensation was not disturbed and electrical re-actions were normal.

The hands showed marked loss of power, especially on flexing the fingers. Pronation and supination of forearm was very weak. Flexion of the forearm is good; also movements of the upper arms and shoulders. Two days after admission, the pain and stiffness in lower limbs disappeared. The left patellar reflex was still absent.

Blood:—Red corpuscles, 4,735,000; white, 8,000; hemoglobin, 95%.

Urine:—Specific gravity 1028, albumen and sugar absent. Microscopical examination showed oxalate crystals and epithelial cells.

One week after admission, the power in the lower limbs was greatly improved. The left patellar reflex was present. The flexor power of the hands was:—Right, 23k°; left, 18k°.

On February 28th, he was able to walk without assistance and was allowed up each day in the ward. The flexor power of the hands gradually increased, and on that day registered:—Right, 28k°; left, 20k°.

On March 15th he could walk quite readily; the power in lower limbs was about normal. The patellar reflexes were slightly exaggerated and the flexor power in right hand was 35k°, and in left 25k°.

The note on March 31st was "both patellar reflexes slightly exaggerated, flexion power in right hand 48k°, and in left hand 37k°."

The return of the knee jerks while the arms were still weak is quite remarkable and shows the localization of the affection.

CASE 7. I saw this case with Dr. A. R. Gordon to whom I am indebted for the following notes:—W., male, aged 21 years.

Occupation clerk. Well developed, of good family and personal history.

February 16th, 1906. Came to office 10 a.m., complaining of weakness in hands and arms, having noticed at noon of the previous day weakness in right hand on attempting to open a door, the left hand showing weakness a short time (an hour or two) later. This condition gradually increased until first seen February 16th, 10 a.m. Face pale and a look of anxiety and ill-feeling. Pulse 54, soft and compressible. Temperature 97.8 F.; respiration 18. Flexors and extensors of fingers and wrist, pronators and supinators and flexors of the forearm, markedly affected, the triceps and muscles of the shoulder girdle moderately so.

Intercostals and other muscles of respiration apparently unaffected. No sensory disturbance, knee-jerk normal, legs unaffected.

February 17th, 10 a.m. Had a restless night, experienced some difficulty in swallowing and in expectorating. Feared to be left alone. Voice weak. Face anxious and pale. Weakness of arms still more marked. Intercostals somewhat involved. Some dyspnoea. Pulse 60, temperature 98°F, respiration 26. Marked feeling of prostration. Superficial reflexes present, legs unaffected, knee-jerks normal. 9 p.m. Weakness in arms more marked. Deglutition more difficult, dyspnoea more marked. Prostration extreme. Some weakness in legs. Pulse 60. Temperature 98.6° F.

February 18th, 10 a.m. Patient brighter, voice stronger, less difficulty in swallowing. Dyspnoea more marked. Intercostals decidedly, and diaphragm somewhat, involved, weakness in abdominal muscles evident: marked weakness in legs, especially in left; knee-jerks absent. Abdominal and cremasteric reflexes present. Bladder and rectum unaffected.

Small area of anaesthesia to the right of the second lumbar vertebra. No other sensory disturbance noticed. Pulse 72. Temperature normal.

4 p.m. Patient fairly bright, deglutition slightly improved, speech fairly good. Some slight power retained in arms. Marked involvement of intercostals and diaphragm. Left leg powerless, some slight movement in the right. Bladder and rectum still unaffected. Cremasteric reflex present. Some tenderness in region of right temporo-maxillary joint. Pulse 78, temperature 99° F.

During the night of the 18th, patient was restless, suffered greatly from dyspnoea, complained of the weight of his arms upon his chest and of the weight of the bed clothes. He died suddenly about midnight. An autopsy was not permitted.

CASE 8. P. D., aged 46. Hotelkeeper. I saw him with Dr. H. Wilberforce Aikins, to whom I am indebted for the notes. He was a large robust man addicted for a year or two to excessive use of alcohol. The initial symptoms were

pains of a rheumatic type soon followed by weakness in the legs. The paralysis extended upwards in the usual manner and soon involved the arms and the whole of the face, both sides of which became quite powerless. The muscles of mastication were not affected and those of the tongue and pharynx only to a moderate degree. The trunk muscles retained sufficient power to enable him to sit so long as he was quite erect but not if the body deviated from the perpendicular position. The intercostal muscles and diaphragm were affected but retained sufficient power to enable him to breathe without much discomfort. The functions of the bladder and rectum were not affected. The reflexes were all lost. Sensation was normal. The muscles were flaccid but there was little, if any, apparent wasting.

Six weeks later nearly full power returned to the face and to the muscles of speech and swallowing. He was able to make considerable movement of the arms and slight movement of the legs. Knee jerks were still absent.

These cases show not only the symptom-complex but also nearly all the variations met with in the course of acute ascending paralysis as first described by Landry in 1859. The picture presented by a typical case after full development is very striking. There is complete flaccid paralysis of all four extremities, of the trunk muscles, occasionally of the face, usually of the muscles of deglutition and finally of those of respiration to which death is usually due. Sensation is usually unaffected although there may be various paræsthesias such as slight numbness, tingling, areas of hyperæsthesia and pain in the back, severe in some cases, but these disturbances are temporary and the sense of touch remains unaffected. Delirium is rare, consciousness as a rule remaining clear until near death when stupor is caused by the accumulation of carbonic acid in the blood.

The reflexes are lost early, not returning in the fatal cases, and in those recovering, only after the power of the muscles has been well restored.

The bladder and rectum usually escape, but they were involved in three cases of this series, and most markedly in case 2, which ended in recovery.

The course of the disease is usually afebrile but the temperature may be high and toxic in type as in case 4, but the duration of the fever was short in all these cases.

The spleen and lymphatic glands are usually enlarged.

Although there is still much uncertainty as to the pathology of Landry's Paralysis there is scarcely room for doubt that it is due to an acute general infection. This is indicated by its onset with malaise and aching pains, the fever in some cases, and the swollen spleen and lymphatic glands. The occurrence of the fore-

going cases in groups showing an endemic cause lends further support to this view. In the present winter (1906) several other cases occurred in Toronto in the practice of various physicians. I greatly regret that an autopsy was not available in any of my fatal cases.

With the introduction of the Marchi and Nissl methods of staining nerve tissue, much advance has been made in demonstrating the occurrence of definite changes in recent cases to account for the almost uniform course of the symptoms. Among the definite *post mortem* changes found, the most frequent are in the spinal cord, especially in the anterior horns. The vessels of the meninges and cord are usually engorged, frequently with capillary hemorrhages generally in the anterior horns and surrounding white substance, but also occasionally in the posterior root ganglia. In a few cases there is small round cell-infiltration into the walls of the vessels and the perivascular lymph spaces; possibly this would be found more often if the fatal termination were less rapid.

Occasionally, the pathological changes are more severe and widespread, consisting in addition to marked congestion of the cord and meninges and round cell-infiltration of the walls of the vessels and perivascular lymph spaces, of areas of softening in the cord generally limited to the anterior gray substance, the whole constituting a meningo-myelitis.

In a few cases, all that was found was degeneration of the peripheral nerves, but myelin changes in the white substance of the cord as well as of the nerves have been found. One or two cases have been reported of hyaline degeneration and thrombosis of the blood vessels, most frequently in the anterior part of the cord.

BACTERIOLOGY.

Although all these pathological changes can only be adequately accounted for by a bacterial toxine circulating in the blood the most careful search has failed to reveal, in the majority of cases, the existence of micro-organisms in either the tissues or fluids of the body. Farquhar Buzzard (Brain; Spring Number, 1903, Part C.I.), in a valuable paper, collected the records of thirty-eight cases, and in only thirteen of these were micro-organisms found by either staining the tissues or by culture methods; in the remaining twenty-five cases the examinations were negative. In these thirteen cases the micro-organisms found were nearly as various as the cases. In his own case a micrococcus was isolated from the blood, and one indistinguishable from it found in large numbers in the external parts of the spinal dura. Subdural injections into a rabbit of cultures of this coccus produced after some days a rapidly spreading paralysis, and the coccus was obtained from the blood and dura matter. In neither the man nor the rabbit was the micro-

organism found in the nerve tissue or pia-arachnoid, and in both the cerebro-spinal fluid was sterile.

In a remarkable case ending fatally, reported by Gordinier (*Albany Medical Annals*; January, 1904), a careful bacteriological examination gave negative results. The illness began with symptoms of general infection from intestinal origin thirteen days before the onset of the paralytic symptoms which developed rather suddenly and death occurred nine days later from respiratory paralysis. Widespread degeneration of the peripheral neurones was found at the *autopsy*.

In this last case had life been prolonged sufficiently there must have followed marked atrophy as in cases of acute poliomyelitis, a case of which it would doubtless have been regarded. It is a question whether all cases of Landry's Paralysis should not be regarded as identical pathologically with acute poliomyelitis. However, it is remarkable that in the cases of Landry's Paralysis terminating in recovery there is not permanent injury such as paralysis and atrophy. The following case may be quoted to show the close resemblance, if not identical nature, of the two affections. A child, female, aged ten years, presented the symptoms of a moderately acute infection, with the enlarged spleen and lymph glands, followed in a few days with increasing paralysis, first of the legs and then extending to the trunk and arms. When I saw her a few days later all four extremities were completely paralysed; the diaphragm was quite weak but the intercostal muscles were little affected. Swallowing was somewhat difficult. The face was normal. Occuring at a time when a case of Landry's Paralysis was under observation the child's case was regarded as one of the same disease. The subsequent history proved it to be poliomyelitis; when seen some weeks later there was atrophy affecting all four extremities, almost complete of the legs and very marked of the arms, chiefly of the muscles of the shoulder girdle; the trunk muscles recovered fairly well. A year later she was able to sit in a chair and use the arms sufficiently to enable her to take easily managed food, but her power over the legs was limited to a little swinging movement. Had the nerves supplying the diaphragm and intercostal muscles and those of the medulla escaped with less injury in Gordinier's case, so as not to have ended fatally, the ultimate result should have been practically identical with that of this case. The case, at least, shows that it is not always possible to differentiate the two affections.

151 Bloor Street West.

Proceedings of Societies.

PRELIMINARY PROGRAMME OF THE SEVENTY-FOURTH ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION.

EXECUTIVE OF THE TORONTO BRANCH BRITISH MEDICAL ASSO-
CIATION.

President.—IRVING H. CAMERON, M.B., F.R.C.S., Eng., and Edin.,
LL.D., Edin., Toronto.

Vice-President.—ADAM H. WRIGHT, M.D., Toronto.

Honorary Secretary.—WILLIAM B. THISTLE, M.D., 171 College
Street, Toronto.

BRANCH COUNCIL.

ALLEN BAINES, M.D., ALEXANDER MCPHEDRAN, M.B., RICHARD
ANDREWS REEVE, M.D.

TUESDAY, AUGUST 21st.

PROGRAMME OF MEETING.

8.30 a.m. Clinic.

9.30-12.30 a.m. Meetings of Sections.

1.00 p.m. Luncheon for Visiting Ladies.

2.00 p.m. Address of Welcome, Introduction of Guests,
Delegates, etc., and President's Address.

4.30-6.00 p.m. Reception and Garden Party, by His Honor
the Lieutenant-Governor and Mrs. Clarke at Gov-
ernment House.

6.30 p.m. President's Dinner.

8.00 p.m. General Meeting.

8.30 p.m. Address on Obstetrics, Dr. W. S. A. Griffith.

9.30 p.m. Reception by the President and Mrs. Reeve in
the University Quadrangle.

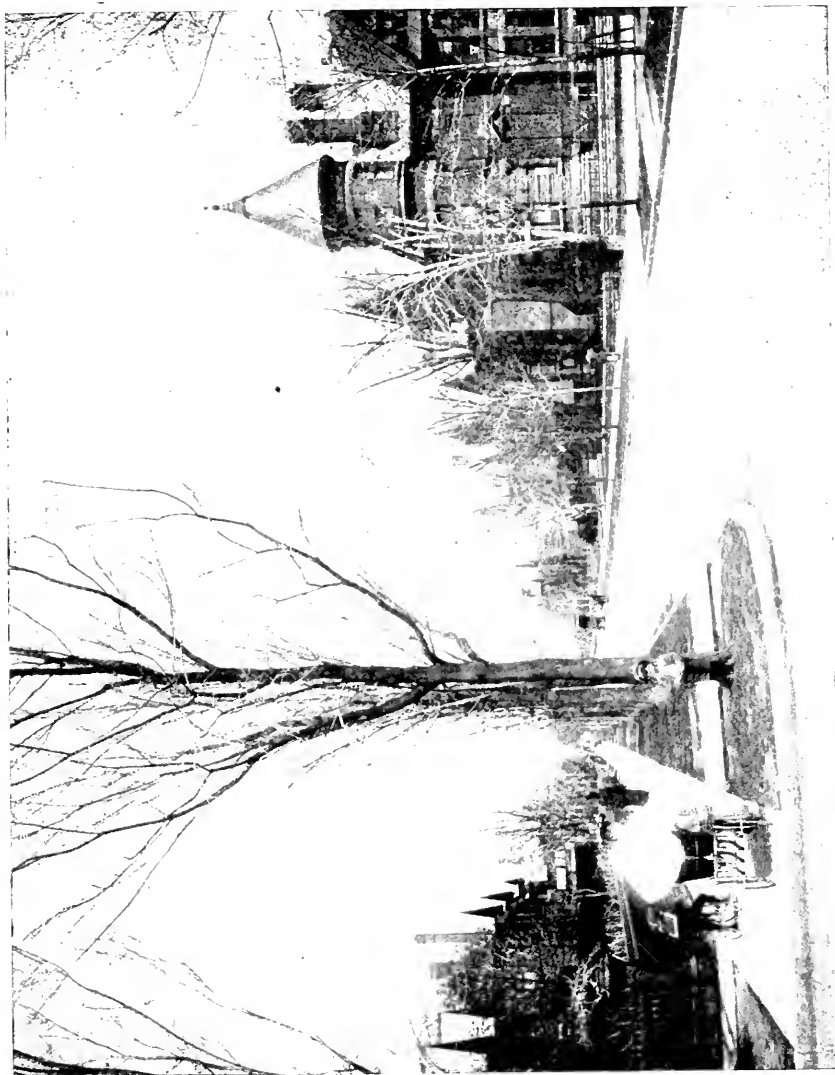
WEDNESDAY, AUGUST 22nd.

8.30 a.m. Clinic.

9.30-12.30 a.m. Meetings of Sections.

1.00 p.m. Luncheon by invitation of the Dominion
Alliance.

2.30 p.m. Address on Medicine, Sir James Barr, M.D.



ST. GEORGE STREET, TORONTO.

3.30 p.m. Garden Party (for ladies), University Women's Club, at Annesley Hall.

4.30 p.m. Garden Parties (Prof. Goldwin Smith.

(J. W. Flavelle, Esq., LL.D.

8.30 p.m. Address on Surgery, Sir Victor Horsley, F.R.S.

9.30 p.m. Reception by the Mayor and the City Council, at the City Hall.

THURSDAY, AUGUST 23rd.

8.30 a.m. Clinic

8.00 a.m. Ladies Excursion to Niagara Falls.

9.30-12.30 a.m. Meetings of Sections.

1.30 p.m. Luncheon at the Lakeside Home (limited).

2.30 p.m. International Golf Matches at Toronto and Lambton Golf Clubs.

7.30 p.m. Annual Dinner.

8.00 p.m. Reception for Ladies.

FRIDAY, AUGUST 24th.

8.30 a.m. Clinic.

9.30-12.30 a.m. Meetings of Sections.

1.00 p.m. Luncheon for Visiting Ladies.

2.30 p.m. General Meeting.

4.30 p.m. Garden Party, E. B. Osler, Esq., M.P.

8.30 p.m. Reception by the Royal Canadian Yacht Club at the Island.

SATURDAY, AUGUST 25th.

Excursion to the Niagara Power Company's Works, through the courtesy of Sir Henry M. Pellatt (limited).

Excursion to Muskoka Lakes (limited).

Excursion to Lambton Golf Links, through the courtesy of the President, A. W. Austin, Esq. (limited).

Excursion to Ontario Agricultural College, Guelph (limited).

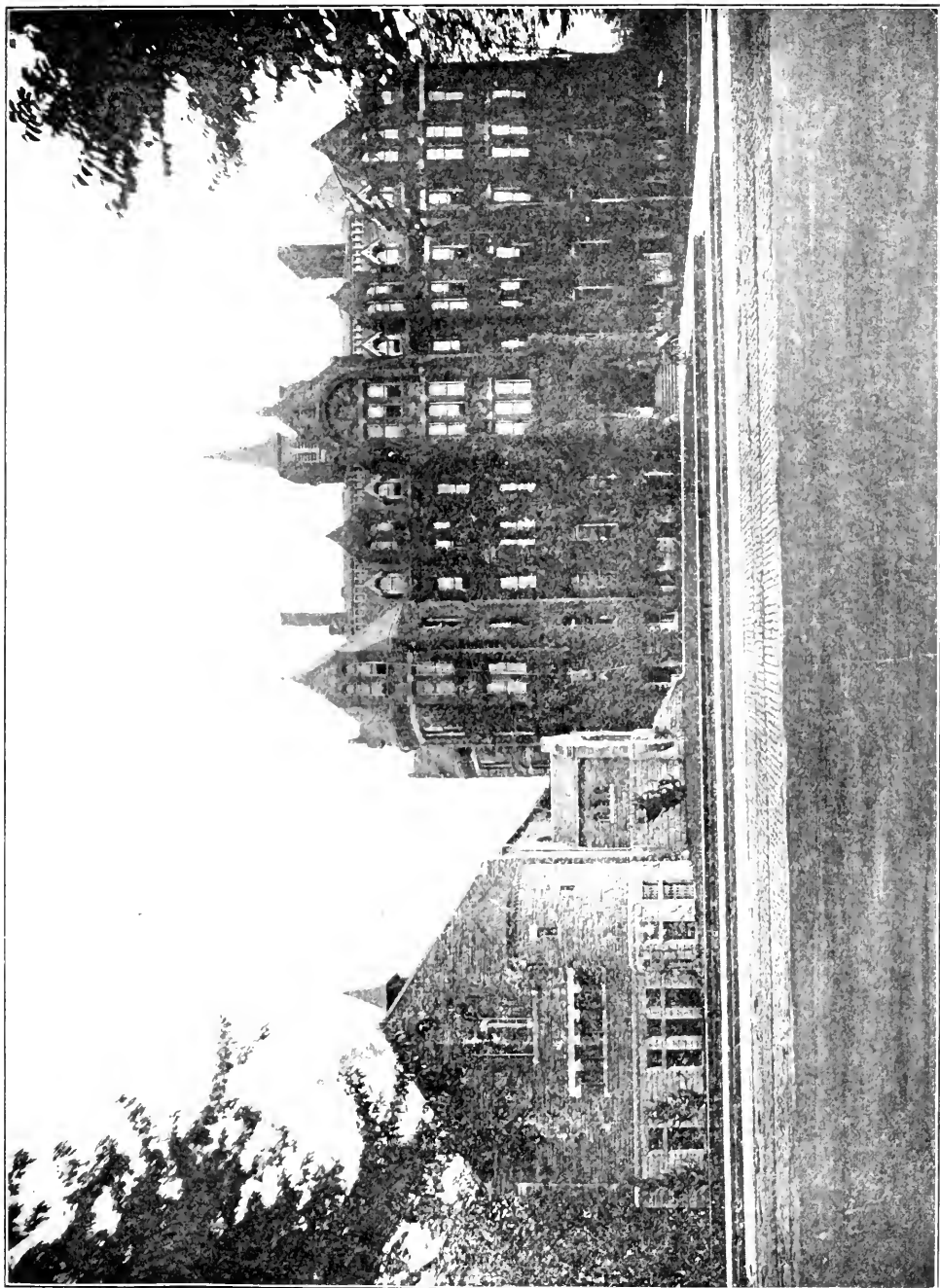
ADDRESSES.

An Address in Medicine will be delivered by SIR JAMES BARR, M.D., F.R.C.P., F.R.S.E.—Subject: The circulation viewed from the peripheral standpoint.

An Address in SURGERY will be delivered by SIR VICTOR HORSLEY, M.B., F.R.C.S., F.R.S.—Subject: The Technique of operations on the Central Nervous System.

An Address in OBSTETRICS will be delivered by WALTER SPENCER ANDERSON GRIFFITH, M.D., F.R.C.P.—Subject:

Not yet announced.



WYCLIFFE COLLEGE, TORONTO

The order given below will not necessarily be followed in the final programme.

SECTION IX. ANATOMY.

The following subjects have been selected for discussion:

(a) "The structure of the Cardiac Glands of Mammals and their phylogenetic significance, a reply to G. Haane," by Dr. R. R. Bensley, University of Chicago.

(b) "Reports from the Hull Laboratory of Anatomy, University of Chicago," by Dr. R. R. Bensley, Chicago.

(c) "The Cytological character of the Cellular Components of the islets of Langerhans," (N. A. Lane), by Dr. R. R. Bensley, Chicago.

(d) "The Structure of the Lachrymal and Harderian Glands of Mammals," (J. Sundwall), by Dr. R. R. Bensley, Chicago.

(e) "The anatomical relations and blood supply of the palatine tonsil," by Dr. J. C. Wilson, Chicago.

(f) "An unusual peritoneal anomaly simulating retro-peritoneal hernia," by Dr. J. C. Wilson, Chicago.

(g) "On the Chromatin character of certain parietal cells," by Dr. B. C. Harvey, Chicago.

(h) "On a case of polydactylism in the foot," by Dr. B. C. Harvey, Chicago.

(i) "A case of innervation of M. rectus lateralis oculi by the N. oculomotorius, with absence of N. abducens," by Dr. B. C. Harvey, Chicago.

(j) "The development of the stria vascularis," by Dr. C. E. Shambaugh, Chicago.

(k) "Mucous stains of the Cardiac Glands of the pig," by Dr. R. R. Bensley, Chicago.

(l) "Preparations of the islets of Langerhans to illustrate the characters of the different kinds of cells composing them," by Dr. R. R. Bensley, Chicago.

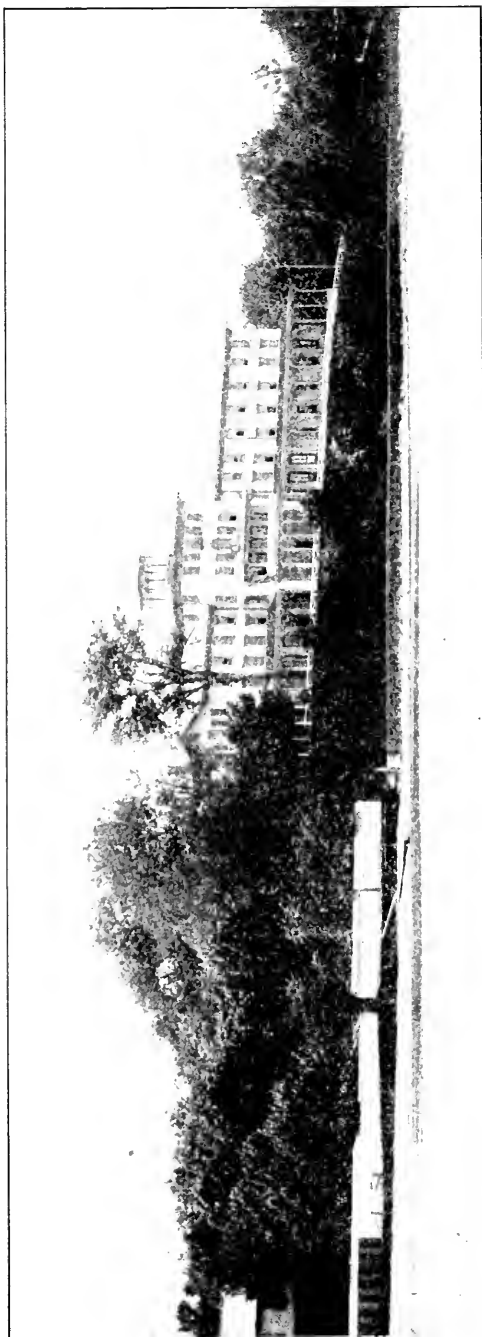
(m) "Sections of the Lachrymal Glands," by Dr. R. R. Bensley, Chicago.

(n) "A heart in which the single right pulmonary vein opens opposite the septum atriorum which is incomplete posteriorly," by Dr. J. C. Wilson, Chicago.

(o) "Preparations of the human stomach to illustrate the methods of differentiating the cellular components," by Dr. D. G. Revell, Chicago.

(p) "The circulation in the labyrinth of the ear in the pig," by Dr. C. E. Shambaugh, Chicago.

(q) "The development and variation of the nerves of the posterior limb in man," by Prof. C. R. Bardeen, University of Wisconsin.



QUEEN'S ROYAL, NIAGARA-ON-THE-LAKE.

(r) "The Arteriae Rectae of the Mammalian Kidney," by Prof. Carl Huber, University of Michigan.

(s) "The form of the Uriniferous Tubules of certain of the lower vertebrates," by Prof. C. Huber, University of Michigan.

(t) "The Morphology of the Hip-Joint," by Dr. Jenkins, King's College.

(u) "The Marginal sinus," by Dr. Jenkins, King's College.

(v) "A Symeian Monster," by Dr. Gladstone, Middlesex Hospital.

Papers have also been promised by Prof. J. Playfair McMurrich, University of Michigan; Dr. Ross E. Harrison, University of Johns Hopkins, Baltimore; Dr. Knower, Baltimore; Dr. Streeter, Baltimore; Dr. Waterson, Edinburgh University; Dr. Donald Armour, London; Dr. Sanders, London; Dr. Paterson, Liverpool.

SECTION IN DERMATOLOGY.

The following subjects have been selected for discussion:

(a) "The Teaching of Dermatology," by Dr. Norman Walker, Edinburgh.

(b) "Eczema," to be opened by Dr. A. J. Hall, Sheffield.

(c) "Psoriasis and light," by Dr. J. N. Hyde, Chicago.

(d) "Errors in the treatment of Cutaneous Cancer," by Dr. A. R. Robinson, New York.

(e) "The wrong and right uses of milk in certain diseases of the skin," by Dr. L. D. Buckley, New York.

(f) "Dermatitis Vegetans," by Dr. Williams Thomas Corbett, Cleveland.

(g) "Multiple and Successive Chancres and Pathology of Syphilitic Infection," by Dr. R. W. Taylor, New York.

(h) Lantern slide demonstration, by Dr. J. A. Fordyce, New York.

(i) Photographs, by Dr. F. J. Shepherd, Montreal.

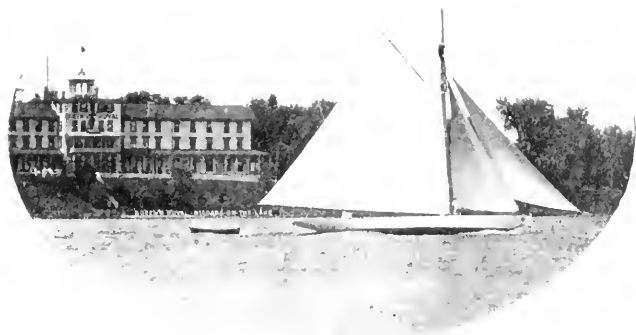
(j) Papers will also be given by Dr. Gilchrist, Baltimore; J. C. Johnston, New York; and S. Pollitzer, New York.

SECTION IN LARYNGOLOGY AND OTOTOLOGY.

The following subjects have been selected for discussion.

(a) "Operations for the correction of deviations of the Nasal Septum," to be opened by Dr. St. Clair Thomson, London; and followed by Dr. Roe, Rochester; Dr. McDonagh, Toronto; Dr. Freer, Chicago, and others.

(b) "On the Laryngeal disturbances produced by Voice Use," to be opened by Dr. Middlemas Hunt, of Liverpool, followed by Dr. Chappell, of New York; Dr. Birkett, of Montreal; Dr. Casselberry, of Chicago, and others.



QUEEN'S ROYAL, FROM NIAGARA RIVER.



A SCENE NEAR NIAGARA-ON-THE-LAKE.

(c) "On the Indications for the Ligation of the Jugular Vein in Otitic Pyæmia," to be opened by Dr. Hugh Jones, Liverpool, and followed by Dr. McKernon, New York, and others.

(d) "On Laryngeal Stenoses in Infants," to be opened by Dr. Logan Turner, Edinburgh, followed by Dr. Ashby, Manchester, and others.

The latter discussion will be before a Session held jointly with the Section on Children's Diseases.

The following Papers have also been offered:

(a) "The Pathogenic Influence of Aural Lesions on Systemic Disease," by Dr. MacCuen Smith, Philadelphia.

(b) "Polypus," by Dr. Eugene Yonge, Manchester.

(c) "To what extent is it advisable to adopt conservative methods in the treatment of Aural Diseases," by Dr. Bacon, New York.

(d) "The value of the Blood-clot as a primary dressing in Mastoid Operations," by Dr. Clarence Blake, Boston.

(e) "Skiagraphy as an aid in the diagnosis of treatment in the diseases of Accessory Sinuses of the nose," with lantern exhibition of negatives, by Dr. Coakley, New York.

(f) "Some Cases of Suppurative Frontal Sinus Disease presenting unusual features," by Dr. Perry Goldsmith, Belleville.

(g) "Abductor Paralysis with a report of two cases," by Dr. George L. Richards, Fall River, Mass.

(h) "Exhibition of specimens, drawings and instruments in connection with the Submucous Resection of the deviated Nasal Septum," by Dr. W. L. Ballenger, Chicago.

(i) The use of the Cold Wire Snare in removing Hypertrophied Tonsils," by Dr. Alice G. Bryant, Boston.

(j) "Thyrotomy and Laryngectomy for malignant disease of the Larynx," by Dr. Chevalier Jackson, Pittsburg.

(k) "A study of the Anatomy of the Accessory Sinuses of the Nose from reconstructions," exhibition of drawings and preparations by Dr. H. W. Loeb, St. Louis.

(l) "The origin of Sputa," by Dr. W. Peyre Porcher, Charleston.

Papers are also expected from Dr. Smurthwaite, Newcastle; Dr. Watson Williams, Dr. Herbert Tilley, and others.

SECTION IN MEDICINE.

The following subjects have been selected for discussion :

TUESDAY, AUGUST 21.—Discussion: "Blood Pressure in Relation to Disease." The subject will be treated under the following headings:

(a) "Physiological Introduction," by Dr. Percy M. Dawson, Baltimore.



PARK OVERLOOKING LAKE ONTARIO.



BOWLING GREEN.—NIAGARA-ON-THE-LAKE.

(b) "Clinical Methods of Investigating Blood Pressure," by Dr. G. A. Gibson, Edinburgh

(c) "Pathology and Therapeutics of Morbid Blood Pressure," by Sir Wm. Broadbent, London.

(d) "The Relation of Blood Pressure to Arterial Sclerosis," by Prof. Clifford Allbutt, Cambridge. The following will also take part: Dr. J. Mackenzie, Burney; Sir James Barr, Liverpool; and others.

WEDNESDAY, AUGUST 22.—A joint discussion with the Section of Physiology on "Over Nutrition and Under Nutrition, with special reference to Proteid Metabolism," to be opened by Prof. Chittenden, Yale; to be followed by Professor Halliburton, London; Professor Wm. Osler, Oxford; Dr. Otto Folin, Waverley, Mass.; Dr. R. Hutchison, London; and others.

THURSDAY, AUGUST 23.—"Some Aspects of Heart Block," by Professor Wm. Osler, Oxford, Dr. J. Mackenzie, Burnley, Dr. Erlanger, Baltimore, Dr. Aschoff, Freiburg, Dr. W. S. Morrow, Montreal, Dr. G. A. Gibson, Edinburgh, and others.

FRIDAY, AUGUST 24.—Papers.

The following papers have been arranged for:

(a) "Some Clinical Manifestations Visceral and General, of Arterio-sclerosis," by Dr. Alfred Stengel, Philadelphia.

(b) "Paracentesis of the Pericardium; Indications and Methods," by Dr. George Dock, Ann Arbor.

(c) "Gastric Neurasthenia," by Dr. Hugh A. McCallum, London, Ont.

(d) "Syringomyelia, with a Cavity traced from the Sacral Region to the Upper Part of the Internal Capsule," by Dr. W. G. Spiller, Philadelphia.

(e) "The Treatment of Typhoid," by Dr. F. T. Smith, London.

(f) "The Treatment of Typhoid," by Dr. W. B. Thistle, Toronto.

(g) "The Pathology of Neurasthenia," by Dr. T. D. Savill, London.

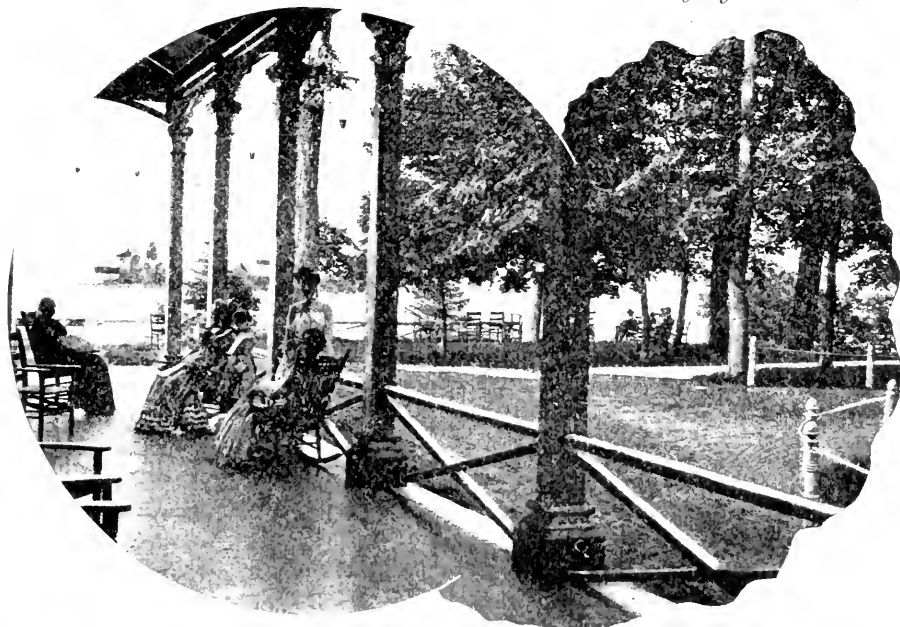
(h) "Amino-acids and Metabolism," by Dr. L. F. Barker, Baltimore.

(i) "Four Cases of Gangrene of the Lung; Operations, Recovery," by Dr. Ridley MacKenzie, Montreal.

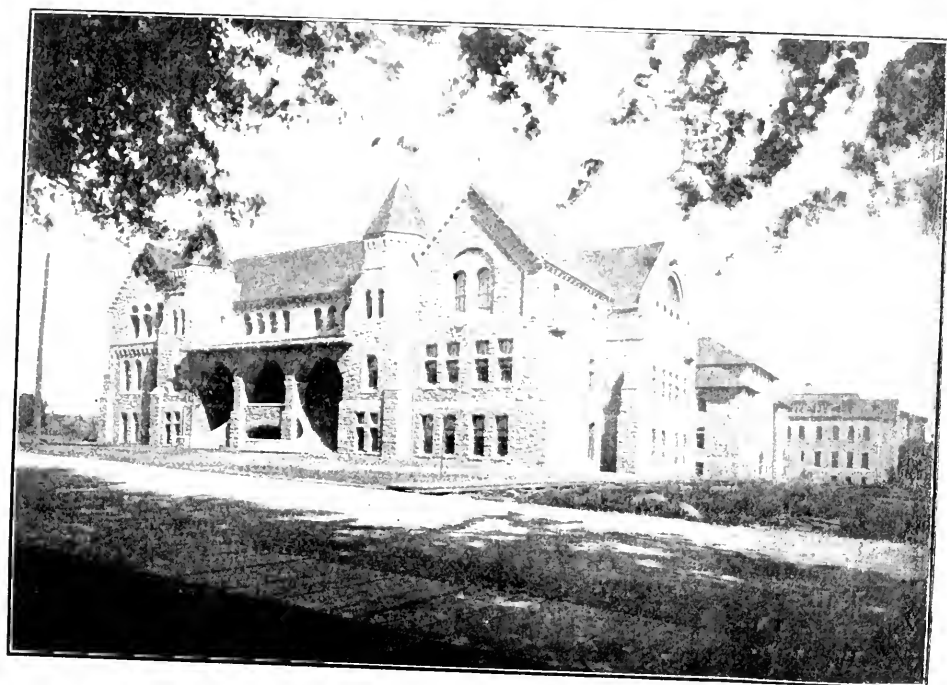
(j) "The Present Status of Military Medical Arrangements in Canada," by Dr. J. T. Fotheringham, Toronto.

(k) "The Treatment of Neurasthenia in General Hospitals," by Dr. D. C. Meyers, Toronto.

(l) "The Effect of Posture upon the Position of the Heart," by Dr. R. D. Rudolf and Dr. S. Cummings, Toronto.



A GLIMPSE OF FORT NIAGARA, N.Y.



QUEEN'S UNIVERSITY, KINGSTON.

(*m*) "The Relation of Gastric Motility to the Process of Digestion," by Dr. Alex. McPhedran, Toronto.

(*n*) "Neurotic Affections of the Respiratory System," by Dr. A. R. Gordon, Toronto.

(*o*) Title not yet announced, paper by Dr. J. J. Putnam, Boston.

SECTION IN OBSTETRICS AND GYNAECOLOGY.

The following subjects have been selected for discussion :

(*a*) "The Changes in Uterine Fibroids after the Menopause, with Special Reference to Operations," to be opened by Dr. C. L. A. Reed, Montreal.

(*b*) "Hyperemesis Gravidarum," to be opened by Dr. J. C. Cameron, Montreal.

(*c*) "The Appendix Vermiformis in Relation to Pelvic Inflammation," to be opened by Dr. T. Arthur Helme.

The following papers are also promised :

(*a*) "The Treatment of Eclampsia," by Dr. D. J. Evans, Montreal.

(*b*) "Indications for Cesarean Section, other than Pelvic Deformities or Tumors," by Dr. H. L. Reddy, Montreal.

(*c*) "Ectopic Gestation," by Dr. J. F. W. Ross, Toronto.

(*d*) "Metrorrhagia from Conditions of Uterus, other than Neoplastic formations," by Dr. Wm. Gardner, and Dr. J. R. Goodall, Montreal.

(*e*) "The Value of Conservative Treatment of the Ovaries in View of the After History of Many Patients," by Dr. Joseph Price, Philadelphia.

(*f*) "The Surgical and Serum Treatment of Puerperal Sepsis," by Dr. Louis S. McMurtry, Louisville.

(*g*) "Uterine Myomata and their degenerative changes," (with Lantern demonstrations), by Thos. S. Cullen, Baltimore.

(*h*) "Concealed Accidental Hemorrhage," by Dr. A. H. Wright, Toronto.

SECTION IN OPHTHALMOLOGY.

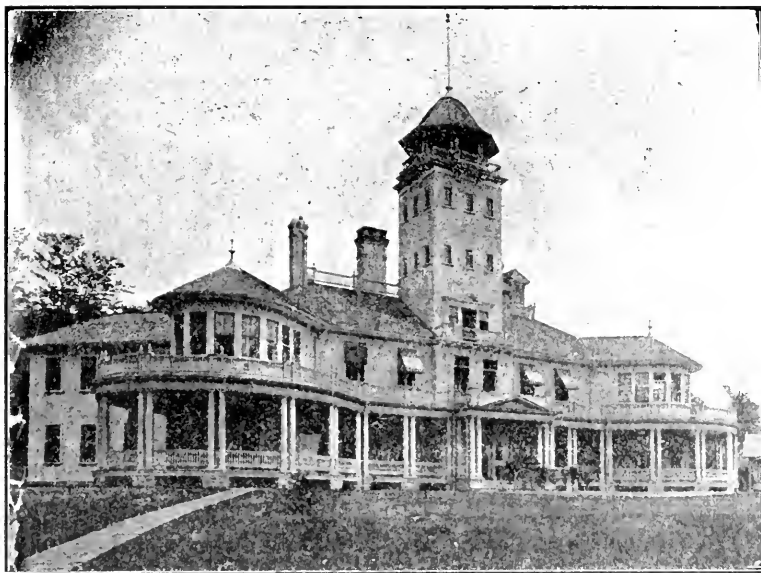
The following subjects have been selected for discussion :

TUESDAY, AUGUST 21.—"Rare forms of Choroiditis," to be opened by Mr. J. B. Lawford, London, and followed by Dr. Hill Griffith, Manchester ; Dr. H. Knapp, New York, and Dr. C. Bull, New York.

(*a*) "Recent Cases of Wood Alcohol Poisoning," by Mr. Casey Wood, Chicago.

(*b*) "Trachoma," by Dr. G. S. Ryerson, Toronto.

(*c*) "Peridectomy," by Dr. L. Webster Fox, Philadelphia.



ADMINISTRATION BUILDING, MUSKOKA COTTAGE SANATORIUM,
NEAR GRAVENHURST.

(For incipient cases of tuberculosis, etc.)



ADMINISTRATION BUILDING, TORONTO FREE HOSPITAL FOR
CONSUMPTIVES, ON HUMBER RIVER.

(For advanced cases.)

(d) "Obstruction of Central Retinal Vein," (with lantern demonstrations), by F. H. Verhoeff, Boston.

(c) "Transillumination of the eye with demonstration of the new Ocular Trans-illuminator, by Dr. H. V. Wurdeman, Milwaukee.

WEDNESDAY, AUGUST 22.—"Sympathetic Ophthalmia," to be opened by Dr. G. H. Burnham, Toronto, and followed by Dr. Charles A. Oliver, Philadelphia; Mr. Arnold Lawson, London, and Dr. J. W. Stirling, Montreal.

(a) "On Sympathetic Degeneration," by Mr. Freeland Fergus, Glasgow.

(b) "Sympathetic Ophthalmia after Mules Operation," by Dr. W. G. M. Byers, Montreal.

(c) "Relation between Muscular Imbalance and Gastric Symptoms," by Dr. Lucien Howe, Buffalo.

(d) "The dependence of Accommodation and Motility on the Refraction of the Eye," by Dr. H. Knapp, New York.

(e) "Influence of defective eyesight on the mental development of children," by Thomas A. Woodruff, Chicago.

THURSDAY, AUGUST 23—"Affections of the Lachrymal Passages," to be opened by Dr. A. B. Osborn, Hamilton, and followed by Dr. S. Risley, Philadelphia, and Dr. Theobald, Baltimore.

(a) "On the Treatment of Lachrymal Stricture," by Mr. Brailey, London.

(b) "On Accommodation after Middle Life and its Practical Importance," by Dr. Eduard Jackson, Denver.

(c) "Tenotomy of the Inferior Oblique as a Remedy for Some Forms of Ocular Deviation," by Dr. Alex. Duane, New York.

(d) "Two cases of orbital Phlegmon simulating a malignant tumor, caused by Disease of the Ethmoid cells," by Dr. Dunbar Roy, Atlanta.

FRIDAY, AUGUST 24.—"Visual Tests for Public Services,"

"Marine and Railroad Services," to be opened by Dr. T. H. Bickerton, Liverpool, Dr. Williams, Boston, followed by Dr. Allport, Chicago.

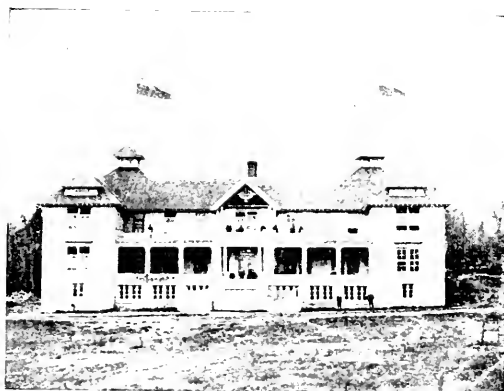
"Military Services," to be opened by Mr. Arnold Lawson, London.

"On the Work which can be performed by a One Eyed Man," by Mr. Freeland Fergus, Glasgow.

"Plastographic Tests for Binoocular Vision," by Mr. Freeland Fergus, Glasgow.

(a) "Dislocation of the eyeball," by Dr. James Moores Ball, St. Louis.

(b) "Fundus Examination before Cataract Extraction," by Dr. J. P. Morton, Hamilton.



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GRAVENHURST.
(For incipient cases.)



LAKEHURST SANATORIUM, OAKVILLE, ONT.

SECTION IN PAEDIATRICS.

The following subjects have been selected for discussion :

(a) "Congenital Pyloric Stenosis," the medical aspect being introduced by Dr. Edmund Cantley, London, and the surgical aspect by Dr. Harold J. Stiles, Edinburgh.

(b) "Pneumococcal Infection," introduced by Dr. Henry Ashby, Manchester.

(c) "Pathology of Pneumococcal Infection," by Dr. Stewart MacDonald, Edinburgh.

(d) "A Symposium on Enterocolitis," under the following headings:

1. "Etiology and Symptoms."
2. "Pathology and Bacteriology."
3. "Diagnosis and Prognosis."
4. "Dietetic Treatment," by Dr. J. L. Morse, Boston.
5. "Medical Treatment," by Dr. Lafetra, New York.

(e) "Rheumatism in Children," introduced by Dr. A. D. Blackader, Montreal.

Among those taking part in the discussion on "Rheumatism in Children" are Dr. E. W. Saunders, St. Louis.

Discussion: "On Laryngeal Stenoses in Infants," to be opened by Dr. Logan Turner, of Edinburgh, followed by Dr. Ashby, of Manchester, and others. *In joint Session with Section in Laryngology and Otology.*

The following papers will be read:

(a) "Prevention of the Acute Intestinal Diseases of Infants during the summer," by Dr. C. G. Kerley, New York.

(b) "A Study of the Absorption of Fats and Carbo-hydrates in Infants," by T. P. Shaw and Dr. L. Guilday, Montreal.

(c) "The Treatment of Tuberculous Abscess," by Dr. C. L. Starr, Toronto.

(d) "Osteogenesis Imperfecta and Allied Conditions," by Drs. Robert W. Lovett and Edward H. Nichols, Boston.

(e) "Spontaneous Haemorrhages in the New Born," by Dr. Allen Baines and H. T. Machell, Toronto.

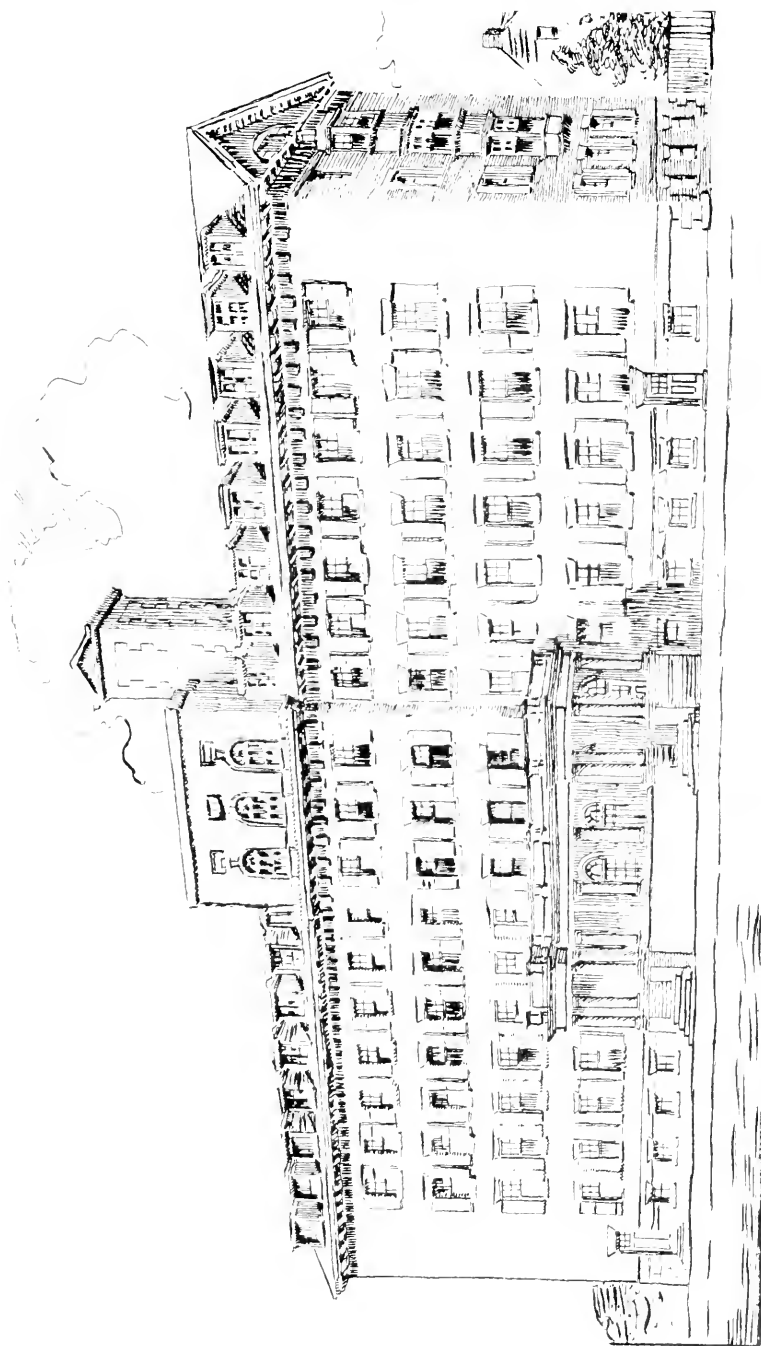
SECTION IN PATHOLOGY AND BACTERIOLOGY.

The following subjects have been selected for discussion:

TUESDAY, AUGUST 21—(a) On "Pathology and Physiology of the Nucleus," to be opened by Professors Adami, Montreal, and A. B. Macallum, Toronto, and followed by Dr. Gustav Mann, Oxford, Prof. E. Wace Carlier, Birmingham, Prof. A. S. F. Grunbaum, Leeds, and Dr. H. E. Roaf, Liverpool.

This will be a joint discussion with the Section in Physiology.

(b) "Concerning the Production of Somatogenic Cytotoxins by the Injection of Nucleoproteids," by Richard M. Pearce, and Holmes C. Jackson, Bender Hygienic Laboratory, Albany, N.Y.



NEW NURSES' RESIDENCE, HOSPITAL FOR SICK CHILDREN, COLLEGE STREET, TORONTO.

(c) "An Antitoxin for Poisonous Mushrooms," by Dr. W. W. Ford, Johns Hopkins University, Baltimore.

(d) "The Application of Physical Chemistry to Serum Pathology," by Prof. W. H. Mainwaring, Indiana University.

(e) Dr. Robert Muir, Glasgow, will read a paper (title not received).

(f) "Gastric Erosions," by Dr. F. J. Smith and Dr. Miller, Pathological Department, London Hospital.

(g) "The urinary excretion of Potassium Iodide in various morbid conditions," by Dr. O. J. Kauffmann, Birmingham.

WEDNESDAY, AUGUST 22—(a) On the "Etiology and Life History of Malignant New Growths." To be opened by Prof. H. R. Gaylord, Buffalo; Dr. Clowes, Buffalo; Prof. Gary Calkins, New York; Dr. Ewing, New York, and Dr. Beebe, New York. Prof. G. Sims Woodhead, Cambridge; Prof. A. S. F. Grunbaum, Leeds; Dr. Robert Muir, Glasgow, and others are expected to take part in the discussion.

(b) "Some Results of the Experimental Investigation of Tumors," by Dr. Leo Loeb, Pennsylvania University, Philadelphia.

(c) "Investigation under the Imperial Cancer Research Fund and their Results" (with lantern demonstration), by Dr. E. F. Bashford, London.

(d) "The Leucoblastomata," by Prof. A. S. Warthin, Ann Arbor.

THURSDAY, AUGUST 23—(a) "The Forms of Arterio-sclerosis, their Classification and Experimental Production." To be opened by Prof. W. H. Welch, Johns Hopkins University, Baltimore; Dr. Klotz, Montreal; and Prof. J. J. MacKenzie, Toronto, and followed by Prof. L. Aschoff, Freiburg; Prof. Leith, Birmingham; Prof. Clifford Allbutt, Cambridge; Prof. W. Beattie, Edinburgh and Dr. Robert Muir, Glasgow.

(b) "Fluid Crystals and their Relationship to Arteriosclerosis and other Pathological Conditions," by Prof. Adami, Montreal.

(c) "On the Elastic Tissue of Arteries," by Dr. Miller, Birmingham (communicated by Prof. Leith).

FRIDAY, AUGUST 24—(a) "Pathogenic Protozoa," by Dr. F. W. Mott, F.R.S., London.

(Acute and Chronic Changes in the Nervous System Produced by Trypanosoma Infections).

(b) "The Nature of Spirochaetes and the Prevention and Cure of Relapsing Fever" (with lantern demonstration), by Prof. F. G. Novy, Ann Arbor.

(c) "Spirochaetes and Trypanosomas," by Dr. J. W. W. Stephens, Johnston Laboratory, Liverpool.

(*d*) "On the Life-History and Cultivations of Certain Pathogenic Protozoa," by Dr. J. Ballah, Montreal.

(*e*) "The Diagnosis of Cholera Asiatica," by Dr. Armand Ruffer, Ramleh, Egypt.

(*f*) "A Beri-Beri-like Disease of the Monkey and the Pathological Histology of Beri-Beri," by Prof. R. T. Hewlett, King's College, London, together with Dr. DeKorte, London.

(*g*) "A Demonstration of Bilharzial Preparations," by Prof. W. St. C. Symmers, Queen's College, Belfast.

(*h*) "The Virus of Smallpox and Vaccinia," by Dr. DeKorte, London (paper communicated from Prof. Hewlett).

Contributions of great interest on other subjects are promised.

SECTION IN PHYSIOLOGY.

The following papers have been offered for this Section:

(*a*) "Muscle Proteid Immunity," by Dr. S. P. Beebe, New York.

(*b*) "The Functions of the Renal Tubules and Glomeruli," by Prof. T. G. Brodie, London.

(*c*) "Demonstration of the Splinthariscopes," by Prof. F. Gotch, Oxford.

(*d*) "Proteid Nomenclature," by Prof. W. D. Halliburton, London.

(*e*) "Structures and Physiological Functions of Amoeba Proteus," by Prof. C. F. Hodge, Worcester, Mass.

(*f*) "Differentiation of Contractile Protoplasm," by Prof. C. F. Hodge and M. F. Duncan, Worcester, Mass.

(*g*) "The Absorption of Proteids from the Intestine," by Prof. W. H. Howell, Baltimore.

(*h*) "Physiology of Renal Tubules," by Prof. G. C. Huber, Ann Arbor.

(*i*) "Blood-platelets," by Prof. G. T. Kemp, Champaign, Ill.

(*j*) "Electrical Excitation of Nerves and Muscles," by Dr. Louis Lapicque, Paris.

(*k*) "Structure and Functions of Nerve Fibres," by Prof. J. S. MacDonald, Sheffield.

(*l*) "Experimental Glycosuria," by Prof. J. J. R. MacLeod, Cleveland, Ohio.

(*m*) "A Plea for Micro-physiology," by Dr. Gustav Mann, Oxford.

(*n*) "Experimental Glycosuria," by Dr. P. Moore, Dr. M. Eadie, Dr. Spence, and Dr. H. E. Roaf, Liverpool.

(*o*) "Effect of Ions on Growth and Cell Division," by Prof. B. Moore, Dr. E. Whitley, and Dr. H. E. Roaf, Liverpool.

(p) "The Functional Significance of the Convolutional Pattern in the Primates," by Dr. F. W. Mott, London.

(q) "Chloroform Anesthesia and a Simple Method of Estimating Chloroform," by Dr. Maurice Nieloux, Paris.

(r) "Lock-jaw," by Prof. C. S. Sherrington and Dr. H. E. Roaf, Liverpool.

(s) "The Causes of Fatigue in Certain Pathological States," by Prof. F. S. Lee, New York.

(t) "The Physiological Action of certain Choline Derivatives," by Dr. Reid Hunt and Dr. R. de M. Taveau, Washington.

(u) "Acapnia as a Factor in Shock," by Prof. Yandell Henderson, Yale, New Haven.

(v) "The Metabolism of Kreatin and Kreatinin," by Dr. Otto Folin, Waverley, Mass.

(w) "The Preservation of Frogs for Physiological Purposes," by Prof. Westley Mills, Montreal.

(x) "A Vago-Oesophageal Reflex," by Dr. S. J. Meltzer, New York.

(y) "The Various forms of the Negative or Physiological Venous Pulse," by Dr. W. S. Morrow, Montreal.

(z) "Chemical Studies on Growth," by Prof. Lafayette B. Mendel, Yale, New Haven.

(z1) "On the Point of Action of Drugs on the Heart," by Dr. A. J. Carlson, Chicago.

Papers are also promised by the following: Dr. P. T. Herring, Edinburgh; Dr. F. G. Hopkins, Cambridge; Dr. Sutherland Simpson, Edinburgh; Prof. Jacques Loeb, Berkeley; and Dr. P. A. Levene, New York.

Discussion: 1. (With Section on Pathology, Tuesday) "On the Physiology and Pathology of the Nucleus."

2. (With Section on Medicine, Wednesday) "Over Nutrition and Under Nutrition, with Special References to Protein Metabolism in Health and Disease," to be opened by Prof. R. H. Chittenden, New Haven.

SECTION IN PSYCHOLOGY.

The following subjects have been selected for discussion:

TUESDAY, AUGUST 21—(a) "Reflexes among the Insane," by Dr. Daniel Clark, Toronto.

(b) "The New Psychology," by Dr. Schofield, London.

(c) "Cerebral Localization in the Study of Psychiatry," by Dr. C. K. Mills, Philadelphia.

(d) "Etiology of General Paresis," by Dr. A. R. Diefendorf, Connecticut.

(e) Discussion: "General Paresis," introduced by the President, Dr. Julius Mickle, London, and followed by Dr. Joseph

Collins, New York; Dr. Cowles, Boston; Dr. B. Sachs, New York (Pseudo General Paresis).

WEDNESDAY, AUGUST 22—(a) "Methods of Staining the Central Nervous System," by Dr. Turner, Brentwood Asylum.

(b) "Diagnosis and Treatment of Peripheral Nerve Lesions," by Dr. Shirres, McGill University, Montreal.

(c) "Feeble Minded Children," by Dr. Shuttleworth, London.

(d) "Relation of Epilepsy to the Blood and Central Nervous System," by Dr. Turner, Brentwood Asylum.

(e) "Epilepsy Exhibited by Kinetoscope," by Dr. Spratling, Sonyea.

(f) Discussion: "Epilepsy—Psychic Fits," introduced by Dr. Alden Turner, London, Eng., and followed by Dr. Shuttleworth, London, Dr. Spratling, New York, Dr. W. G. Spiller, Philadelphia; Dr. Angell, Rochester.

THURSDAY, AUGUST 23—(a) "Insanity of Inebriety," by Dr. Crothers, Hartford.

(b) "Sterilization of Undesirable Degenerates," by Dr. Rentoul, Liverpool.

(c) "Types of the Devolutional Psychoses," by Dr. Farrar, Baltimore.

(d) "A Comparison of the Cells of the Human Cerebrum in Point of Resistance to Disease," by Dr. E. E. Southard, Harvard University.

(e) Discussion: "Dementia Praecox," introduced by Dr. C. K. Clarke, and followed by Dr. Adolph Meyer, New York; Dr. F. X. Dercum, Philadelphia; Dr. Shuttleworth, London.

FRIDAY, AUGUST 24—(a) "Application of Modern Hospital Methods to the Treatment of Insanity," by Dr. Ryan, Superintendent of Asylum, Kingston.

(b) "Occupation as a Factor in the Treatment of the Insane," by Dr. Mohr, Superintendent of Asylum, Brockville.

(c) "After Treatment of Discharged and Convalescent Cases," by Dr. Dewey, Wanwitsa.

(d) "Mental Processes Produced by Bodily Diseases," by Dr. Savill, London.

(e) "Rational Psycho-Therapeutics," by Prof. Dubois, Berne.

(f) "Discussion: "Mind in Medicine," introduced by Dr. Schofield, London, and followed by Pres. Hall, Clark University, Dr. Cowie, Bournemouth, and Dr. A. E. Macdonald, New York.

In addition others will take part who have not yet formally stated their subjects.

We expect also to have papers by Dr. C. L. Dana, New York; Dr. August Hoch, New York; Dr. Hattie, Halifax; Dr. Burgess, Montreal; Dr. Corning; Dr. Diefendorf; Dr. Hurd, Buffalo, and Dr. Hurd of Baltimore.

SECTION IN STATE MEDICINE.

The following subjects have been selected for discussion:

- (a) "Protection and Control of Milk Supply."
- (b) "Prevention of Tuberculosis."
- (c) "Training and Supervision of Midwives."
- (d) "Notification of Phthisis."
- (e) "Provision and Administration of Isolation Hospitals."
- (f) "Isolation Hospitals and 'return' Cases."
- (g) "Medical inspection of Children attending Elementary Schools."
- (h) "Quarantine and Inspection of Shipping."
- (i) "Medical Examination of Immigrants."
- (j) "Supply of 'Water Gas'" and "Dangers of Carbon Monoxide Poisoning."

The following papers have been promised:

- (a) "The Prevention of Tuberculosis," by Dr. Jas. Roberts, Hamilton.
- (b) "Hygiene of the Home," by Dr. J. J. Cassidy, Toronto.
- (c) "Tuberculosis" (in some phase), by Dr. J. H. Elliott, Gravenhurst.
- (e) "Medical Inspection of Schools," by Dr. Helen MacMurchy, Toronto.
- (e) "Medical Inspection of Schools," Wm. Scott, B.A., Toronto.
- (f) "Gas Supplies, their Dangers, etc.," by A. McGill, B.A., Ottawa.
- (g) "The State Control of Health," Dr. Jennie Drennan, St. Thomas.
- (h) "Artificial Purification of Water Supplies," Dr. W. J. Robinson, Guelph.
- (i) "The Protection and Control of Milk Supplies," Prof. R. Harcourt, Guelph.
- (j) "The Protection and Control of Milk Supplies," Dr. Chas. Harrington, Boston.
- (k) "Water Supplies from the Sanitary Standpoint," Dr. H. W. Hill, Minneapolis.
- (l) (a) "Water Gas Poisoning," (b) "Administration Control of Milk Supply," Prof. John Glaister, Glasgow.

SECTION IN SURGERY.

The following subjects have been selected for discussion:

- (a) "Treatment of Prostatic Hypertrophy," by Dr. Geo. A. Bingham, Toronto; followed by Mr. J. Lynn Thomas, C.B., Cardiff.
- (b) "Treatment of Ascites secondary to Chronic Hepatitis."

by Mr. Sinclair White, Sheffield; followed by Dr. Stewart, Halifax, and Mr. George Grey Turner, Newcastle-on-Tyne.

(c) "Ulcer of the Duodenum and its surgical Treatment," by Dr. W. J. Mayo, Rochester, Minn.; followed by Mr. George Cooper Franklin, Leicester.

(d) "Treatment of Acute Septic Peritonitis," by Mr. Charles John Bond, Leicester; followed by Dr. William Howitt, Guelph, and Dr. O. M. Jones, Victoria.

Among other subjects which will be discussed are:

(a) "Transplantation of the Ureters in Ectopia Vesicae," by Dr. Geo. A. Peters, Toronto.

(b) "The Surgery of Banti's diseases," by Dr. Geo. Armstrong, Montreal.

(c) "Intestinal Obstruction in Association with the Vermiform Appendix," by Mr. George Grey Turner, Newcastle-on-Tyne.

(d) "Posture as an Aid in Surgery," by Dr. Murray MacLaren, St. John.

(e) "Injuries to the semilunar Cartilages," by Dr. James Bell, Montreal.

(f) "Appendicitis," (subject to be selected), by Dr. Herbert A. Bruce, Toronto.

(g) Paper—Title to be selected, by Dr. Francis J. Shepherd, Montreal.

(h) "Surgical Treatment of Ulcerative Colitis," by Dr. Ingersoll Olmstead, Hamilton.

Arrangements are being made for the holding of a Surgical Clinic at which a number of interesting cases will be presented by members of the Association.

SECTION IN THERAPEUTICS.

TUESDAY, AUGUST 21—(a) "The Kidney, its Pharmacology and its Therapeutics," Prof. T. G. Brodie, London.

(b) "The Treatment of Acute Nephritis," Dr. A. O. J. Kelly, Philadelphia; To be discussed by Dr. C. G. Stockton, Buffalo.

(c) "The Treatment of Uræmia," Dr. E. Lefevre, New York; To be discussed by Dr. J. Caven, Toronto.

(d) "The Treatment of Chronic Nephritis," Dr. H. A. Hare, Philadelphia; To be discussed by Dr. Geo. Hodge, London.

WEDNESDAY, AUGUST 22—(a) "Opsonines and Animal Vaccines," Dr. G. W. Ross, London.

(b) "The Action of Drugs in Vascular Hypertension," Dr. T. L. Coley, Philadelphia.

(c) "The Therapeutics of Acute Acquired Insanities," Dr. D. R. Brower, Chicago.

(d) "The Respective Spheres of Hygienic and Medicinal

Measures in the Treatment of Pulmonary Tuberculosis," Dr. S. S. Cohen, Philadelphia.

(c) "The Working Bulletin System for the Collective Investigation of the Newer Materia Medica," Dr. F. E. Stewart, West Orange.

THURSDAY, AUGUST 23—Joint Sessions with the Section of Medicine on the Subject of "Heart-Block."

FRIDAY, AUGUST 24—I. "The Value of Alcohol in Treatment," Dr. A. D. Blacader, Montreal; to be discussed by Dr. S. J. Meltzer, New York, Dr. R. C. Cabot, Boston; Prof. G. S. Woodhead, Cambridge, Eng.; Dr. W. H. Moorhouse, London, Ont.

II. The Place of Materia Medica and Therapeutics in the Medical Curriculum.

(a) "The Teaching of Materia Medica and Pharmacology," Prof. J. T. Halsey, Tulane University, New Orleans.

(b) "The Teaching of Therapeutics," Prof. T. McCrae, Johns Hopkins University, Baltimore.

(c) "The Place of Materia Medica and Therapeutics in the Medical Curriculum," Prof. C. R. Marshall, University of St. Andrews.

(d) "The Place of Materia Medica and Therapeutics in the Medical Curriculum," Prof. R. B. Wild, University of Manchester. To be discussed by Prof. Osborne, Yale; Prof. Hatcher, Cornell; Dr. J. M. Anders, Philadelphia.

III. The Need and the Place of Psychic Therapeutics in the Medical Curriculum. By Dr. R. C. Cabot, Boston.

PATHOLOGICAL MUSEUM.

It is proposed that the Pathological Museum should be devoted to the following subjects:

1. Series of gross specimens illustrating the anatomy of disease in special organs.
2. Series of gross specimens illustrating the condition of various organs in the same disease.
3. Gross specimens to illustrate papers in the various sections.
4. Skiagraphic exhibit.
5. Photographs illustrating papers in the various sections.
6. A special exhibition of photographs to illustrate the facies of disease.

Under sections 1, 2, and 3, it is suggested that, as far as possible, preparation by the Kaiserling or other method preserving the natural colour be used.

Under section 1, specimens of the following conditions are especially desired.

- (a) Congenital lesions of the Heart.
- (b) Dissecting Aneurysm and rupture of the Aorta.
- (c) Disease of the Prostate Gland.
- (d) Experimental arteriosclerosis.
- (e) Miscellaneous series.

Under section 4, should members wish to exhibit negatives rather than positives, special arrangements will be made for lighting, but intending exhibitors should notify the Committee of the size of their negatives, so that the necessary frames may be prepared.

Under section 5, the Committee wish to make this exhibit as full and as uniform as possible: It is suggested that the photographs, if possible, be full plate size, eight inches by ten inches. If members have especially interesting photographs in smaller size, the Committee will make arrangements to have uniform enlargements eight inches by ten inches made of the positives, or preferably the negatives, if forwarded to Toronto in good time.

Specimens forwarded by express or quick freight from Great Britain should not be sent later than July 5th if they are to reach Toronto in time to be incorporated in the Museum Catalogue. Members bringing specimens with them should send to the Committee before August 1st the descriptions, so that they may be assigned room and be printed in the Catalogue.

Address communications to the Chairman,

MEDICAL LABORATORIES, TORONTO.

GENERAL INFORMATION.

In the Main Building of the University of Toronto will be found:

1. An elaborate Museum of Exhibits, of Instruments, Drugs, Medical Publications, Foods, etc. Visitors will do well to inspect this exhibit carefully, and it is suggested as a suitable rendezvous.

2. In the exhibit halls will be found an interesting collection of Indian Pictures from the brush of Paul Kane (loaned by E. B. Osler, Esq., M.P.)

3. Adjoining the exhibit are
- Information Bureau,
 - Registration Bureau,
 - Post Office,
 - Express and Telegraph offices,
 - Offices of the General and Honorary Local Secretaries,
 - and of the Editor of the British Medical Journal.
 - Ladies' Reception and Writing rooms.
 - Public Stenographers.

4. A Restaurant (west wing and Dean's Garden).

5. Office of G. H. Webster, general visiting agent for all railroads.

The Toronto Industrial Exhibition opens on Saturday, August 25th, and continues for two weeks. This will afford an unrivalled opportunity to visitors to obtain an idea of Canadian progress in Agriculture, Manufacture, etc.

At the time of the meeting there will be held in Toronto a Tuberculosis exhibit, which visitors will do well to examine.

Members and guests attending with their motor cars will find Garage accommodation at

The Franco-British Motor Garage, the Mutual Street Rink.

The Dominion Automobile Co. (Limited), cor. Bay and Temperance Streets.

The Automobile Supply Co., 24 Temperance Street.

Hyslop Bros., 209 Yonge Street.

EXCURSIONS AND SIDE TRIPS.

Excursion (limited) to Niagara Power Works, Niagara Falls, August 25th.

Excursion to Muskoka (limited), August 25th to 27th.

Excursion to the Ontario Agricultural College, Guelph, (limited), August 25th.

	Distance	Cost (Association Rate One Way)
Quebec to St. John.....	600 miles	\$13.90
Quebec to Halifax.....	674 "	14.86
Quebec to Sydney.....	826 "	18.20
Quebec to Saguenay.....	225 "	4.50
Toronto to Muskoka.....	175 "	7.06
Toronto to Niagara Falls.....	50 "	2.50
Toronto to 1000 Islands.....	216 "	5.95
Toronto to Georgian Bay.....	150 "	5.10
Toronto to Sault Ste. Marie.....	400 "	11.65
Toronto to Tenagami.....	300 "	9.05
Toronto to Kawartha Lake.....	70 "	3.05
Toronto to Brampton (Dale Estate Rosaries).....	22 "	0.65
Toronto to Couchiching.....	90 "	2.60
Toronto to Vancouver (return <i>via</i> Yellowstone Park if desired).....	2,600 "	67.75

British visitors may visit all other points in Canada at *half the lowest one way first class fare going* and returning. It is not necessary to travel by the same route. The Certificate supplied by the Eastern Canadian Passenger Association and countersigned by the Secretary must always be presented. For the *transcontinental trip* both British, American and Canadian guests should notify the Honorary Local Secretaries, Medical Building, Toronto, at once, and when possible the names of groups that would like to travel together should be supplied. At present the intention is to send groups of from eighteen to twenty-five in a special

sleeper on each of the regular outgoing transcontinental trains, though it is just possible that a special train be sent through as far as Winnipeg and broken up into groups there. Information regarding trips may be obtained from C. B. Foster, District Passenger Agent, C.P.R., 71 Yonge Street, Toronto; J. D. McDonald, G. T. R., Union Station, Toronto; H. F. Chafee, 2 King Street E., Toronto, Richelieu and Ontario Navigation Co; C. H. Nicholson, Northern Navigation Co., Sarnia, Ont., Wm. Phillips, Canadian Northern Railway Co., King and Toronto Streets, Toronto; W. H. Moore, James Bay Railway Co., King and Toronto Streets, Toronto; N. Weatherston, Intercolonial Railway, 51 King Street E., Toronto.

HINTS TO TRAVELLERS.

Secure berths at the first possible opportunity, do not delay. We cannot too strongly emphasize this matter. Our object is not to secure your attendance (although it is true that the sooner it is known in Toronto, how many members and their families may be expected from the old country the greater will be the opportunity of accommodating and entertaining them suitably), but we emphasize the advice thus, because we know that by the middle of August, the homeward journeying from Europe is in full swing, the steamers are crowded, it is next to impossible to obtain berths at the last moment, and consequently the steamship companies can obtain high prices for the most ordinary accommodation.

If any member is doubtful as to whether at the last moment he will be able to cross, we would still recommend that a berth be secured, to be given up if need be a few weeks before the date of sailing. Speaking from personal experience, we have found the various steamship companies perfectly willing to repay deposits for berths during their busy season, provided the berths be given up in due time to allow other travellers to obtain them.

RAILWAY TRANSPORTATION.

When travelling by night always engage a sleeper as early as possible before starting. A lower berth is more comfortable.

AMOUNT OF LUGGAGE.

For travelling on board ship, it is well to have one commodious trunk, not too high (thirteen inches) to be placed under the berth; for those contemplating but a short visit to Canada, this and a hand bag is sufficient.

The steamship companies carry twenty extra cubic feet of luggage free in the hold for each first cabin passenger. The rail-

way companies throughout North America allow one hundred and fifty pounds (free) for each first class passenger.

We most strongly recommend members visiting Toronto to bring one large trunk rather than a multitude of small traps. The express companies (and the porters at Liverpool on the return voyage) charge by the piece, whatever its size. Bring one trunk and a hand bag, roomy, but not too heavy.

CLOTHING.

The clothing should be much the same as required for a Continental trip. We would point out also the advisability of bringing a dressing gown or capacious ulster. Throughout Canada the tendency is to reduce as much as possible the labor of household service. Thus the bathroom takes the place of the "tub" in the bedroom.

To those coming by the St. Lawrence route and those intending to cross the continent to Vancouver, we would recommend a comfortable cover coat and a suit of thicker underwear, for it may be chilly in the neighborhood of the Straits of Belle Isle, and again when crossing the Rockies. All who cross the Atlantic will find a good travelling rug very comfortable.

MONEY.

The coinage of Canada and the United States is in the form of dollars and cents; £1.=\$4.86; 4 shillings may be regarded as the equivalent of 1 dollar; 1 shilling is the equivalent of 25 cents; 5 pence is the equivalent of 10 cents; 2 1-2 pence is the equivalent of 5 cents; a half-penny is one cent.

Gold coin is not in general circulation in either Canada or the United States. The medium of circulation being bank notes of various denominations, and silver.

It is necessary to caution travellers, that while the currency of the two countries is of identical value, the bills and silver of the United States are not generally accepted in the Dominion and *vice versa*. There is, however, no difficulty in exchanging one for the other at the banks and exchange offices in the larger towns. But, for convenience sake, we would recommend those travelling *via* New York to keep this in mind and not exchange too large an amount of their money into American notes.

CUSTOMS.

The Customs Officials have received instructions from the Commissioners of Customs to facilitate the passing of "usual luggage" with as little delay as possible at Halifax, Quebec and Monireal.

HOTELS OUTSIDE OF TORONTO (PARTIAL LIST).

Hotels in Quebec: Chateau Frontenac, St. Louis, Victoria.
Hotels in Montreal: Place Viger, Windsor, St. Lawrence Hall,
Queen's.
Hotels in Ottawa: The Russell House, Windsor, Grand Union.
Hotels in Winnipeg: Clarendon, Leland House, Queen's.
Hotels in Halifax: Halifax, Queen's, Waverley.
Hotels in St. John: Royal, Victoria, Dufferin.
Hotels in Sydney: Sydney, Cabot.
Hotels in Kingston: British American, Frontenac, Windsor,
Randolph.
Hotels in Muskoka: Royal Muskoka.
Hotels in Penetanguishene and Georgian Bay: The Penetanguishene,
Minneconashene, Sans Souci, Rose Point, Belvidere.
Hotels in Guelph: Royal.
Hotels in Niagara Falls: Clifton House.
Hotels in Niagara on the lake: Queen's Royal.

LIST OF TRAM LINES (STREET CARS) IN TORONTO WITH PLACES
OF INTEREST ON EACH.

BELT LINE.—Orthopedic Hospital, Queen's Park and Victoria
University, McMaster University, Knox College, City Dairy,
Government House, Ontario Society of Artists, Princess
Theatre, St. James Cathedral, Allan Gardens.

CHURCH STREET.—Public Library, Metropolitan Church, St.
Michael's Cathedral Education Department, Granite Club,
Rosedale Golf Grounds, St. Andrew's College (2 miles.)

YONGE STREET.—Union Station, Wharves and Ferries to Island
and Yacht Clubs, Bank of Montreal, Board of Trade, Shea's
Theatre, Robert Simpson Co., T. Eaton Co., Massey Hall
(Shuter St.), Upper Canada College (3 miles), Mount Pleasant
Cemetery.

KING STREET EAST.—St. James Cathedral, Don River, Toronto
Golf Club, Woodbine Race Course, Hunt Club (4 miles),
Dentonia Park Farm (4 miles).

KING STREET WEST.—Mimico Asylum, Old Fort, Massey-Harris
Co., Exhibition Grounds, Humber River.

QUEEN STREET WEST.—City Hall, Osgoode Hall, Armouries,
Trinity University, Toronto Asylum, Humber River, High
Park (South Entrance).

QUEEN STREET EAST.—St. Michael's Hospital.

CARLTON AND COLLEGE EAST.—Allan Gardens, Toronto General
Hospital, Woman's Medical College, Isolation Hospital, Goal.

WINCHESTER STREET.—Riverdale Park and Zoo, Cemeteries.

CARLTON AND COLLEGE WEST.—Hospital for Sick Children, Royal Dental College, Queen's Park, Conservatory of Music, Technical School, Parliament Buildings, University of Toronto, Canadian Institute, Grace Hospital, Hospital of St. John the Divine, Western Hospital, High Park (East Section), Toronto Junction, Lambton Golf Grounds.

TO REACH THE ASSOCIATION

Take any of the following cars: College and Yonge St., Bloor and McCaul, or Carlton and College. All other lines will give transfers to one of the above. The fare is 5c. (2 1-2d), for any distance, but the tickets can be purchased from the conductors at the rate of six for 25c. (1 shilling).

Organic Phosphorus in Rachitis, etc.—Dr. F. Feds, Director of the Pediatric Clinic at the Royal University of Naples, Parliamentary Deputy, etc.—I have made use of Phytin and Fortossan in my clinic and among my patients for the treatment of different forms of weak constitution; in particular, rachitis, and athripsia, in conjunction with iron in the case of anemia, and always followed by a notable amelioration. These preparations of organic phosphorus have proved themselves to be of surprising efficacy in the case of rachitis, and in nervous cases, restoring calm, and arresting disease of the bones. One can administer it to children in all security, and one can expect most happy results, particularly with the tonic efforts which they produce in rachitical paralysis of the lower members.

Apollinaris Water is bottled only at the Spring, Rhenish Prussia, Germany, and only with its own natural gas. It is of recognized purity, leading practitioners and medical journals everywhere testifying to this fact. Professor Virchow says: "Its pleasant taste and its richness in pure carbonic acid favorably distinguish it from all others." Dr. Hermann Weber, F.R.C.P., London, writes: "Apollinaris Water has become the general substitute in all parts of the world, of common, often impure drinking water, and thus a source of incalculable benefit and a pioneer of a useful sanitary and dietetic reform." Apollinaris is not only a pure and refreshing effervescent water, of valuable dietetic qualities, but it also mixes well with wines and spirits. According to the Report of the London *Lancet* on the Apollinaris Spring, the pleasant flavour of Apollinaris is due, in part, to the alkaline carbonates, and in part to the natural state of combination of the mineral ingredients. This report, which gives authoritative analyses of Apollinaris, appeared in the *Lancet* of January 30, 1904. The bottling at the Apollinaris Spring has reached the enormous output of 30,000,000 bottles annually.

The Canadian Journal of Medicine and Surgery

J. J. CASSIDY, M.D.,

EDITOR,

43 BLOOR STREET EAST, TORONTO.

W. A. YOUNG, M.D., L.R.C.P. Lond.,

MANAGING EDITOR,

145 COLLEGE STREET, TORONTO.

Surgery—F. N. G. STARR, M.B., Toronto, Associate Professor of Clinical Surgery, Toronto University; Surgeon to the Out-door Department Toronto General Hospital and Hospital for Sick Children; N. A. POWELL, M.D., C.M., Prof. of Medical Jurisprudence, Toronto University, Surgeon Toronto General Hospital et

Clinical Surgery—ALEX. PRIMEOSE, M.B., C.M. Edinburgh University; Professor of Anatomy and Director of the Anatomical Department, Toronto University; Associate Professor of Clinical Surgery, Toronto University; Secretary Medical Faculty, Toronto University.

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Medicine—J. J. CASSIDY, M.D., Toronto, Member Ontario Provincial Board of Health; Consulting Surgeon, Toronto General Hospital; and W. J. WILSON, M.D., Toronto, Physician Toronto Western Hospital.

Oral Surgery—E. H. ADAMS, M.D., D.D.S., Toronto.

Clinical Medicine—ALEXANDER McPHERKIN, M.D., Professor of Medicine and Clinical Medicine Toronto University; Physician Toronto General Hospital, St. Michael's Hospital, and Victoria Hospital for Sick Children.

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Laryngology and Rhinology—J. D. THORESEN, M.D., Toronto, Laryngologist and Rhinologist, Toronto General Hospital.

Dermatology—D. KING SMITH, M.B., Toronto.

Address all Communications, Correspondence, Books, Matter Regarding Advertising, and make all Cheques, Drafts and Post-office Orders payable to "The Canadian Journal of Medicine and Surgery," 145 College St., Toronto, Canada.

Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited. Contributors must kindly remember that all papers, reports, correspondence, etc., must be in our hands by the first of the month previous to publication.

Advertisements, to insure insertion in the issue of any month should be sent not later than the fifth of the preceding month. London, Eng. Repr sent at 6s. W. Hamillon Munn, Thame's House, 231 Strand, W.C. Agents for Germany, Sarbach's News Exchange, Mainz, Germany.

VOL. XX.

TORONTO, AUGUST, 1906.

NO. 2.

Editorials.

A SYMPOSIUM OF FRENCH PHYSICIANS ON THE DANGERS FROM THE HYPODERMIC INJECTION OF INSOLUBLE SALTS OF MERCURY.

INTRAMUSCULAR injections are made with the soluble and the insoluble salts of mercury, as well as with mercury itself in the form of "gray oil."

There are many objections to the hypodermic use of the insol-

uble salts of mercury, for the following accidents may supervene: severe stomatitis, painful swellings at the site of the injections, abscess, pulmonary infarction, and severe mercurialism. Death has also resulted from the intramuscular injections of the insoluble salts of mercury.

At a meeting of the Société Médicale des Hôpitaux, Paris, Jan. 12, 1906, Drs. Le Noir and Camus reported the following case: A syphilitic patient (female), aged 27 years, received from a city practitioner four hypodermic injections of gray oil (7 minims each), an interval of a week intervening between each injection. Soon after receiving the fourth injection she developed ulcerative gingivitis and gangrenous stomatitis, followed by albuminuria and diarrhea. A month after the fourth injection of gray oil had been given death ensued, as the result of mercurial poisoning. The following lesions were discovered at the autopsy—gastro-enteritis and acute nephritis.

In discussing the case, Dr. Brocq, the well-known dermatologist, remarked that this patient had been treated by a city practitioner, that the symptoms of mercurial poisoning had appeared prior to her entering Dr. Le Noir's service, and that it had been impossible to obtain definite information as to the strength of the mercurial preparation used in her case.

Preparations of gray oil vary, according to the physicians who prescribe them. If a well-known formula is employed, and a rigorous technic used, with the ordinary precautions required in hypodermic medication, accidents due to the use of gray oil are rare, ordinarily benign, characterized only by a slight stomatitis. Serious accidents do occur, but only as exceptions to the rule, and in his opinion such accidents should not be permitted to cause the proscription of a method of treatment which is sure, painless, and which, by its mode of administration, renders great services to members of the working classes who are affected with syphilis.

Dr. Balzer thought there must have been an idiosyncrasy in Dr. Le Noir's case; for, even admitting a large proportion of mercury in the gray oil used in this case, this proportion, in view of the small number of hypodermic injections (four), and the small quantity of gray oil injected on each occasion (m. vii.), should not cause lethal effects. In his opinion the treatment of syphilis by injections of gray oil is a marvellous method. Acci-

dents of the kind mentioned have been noticed after all kinds of treatment in which mercury has been used; even after a patient has taken an ordinary purgative dose of calomel. Such accidents are exceptional and should not, therefore, induce us to renounce hypodermic injections of gray oil.

Dr. Thibierge said that the hypodermic injection of gray oil is the best form of antisyphilitic treatment for hospital use. Patients prefer this preparation to the soluble salts of mercury. He gives about 5,000 injections of gray oil every year at the Broca hospital; the only accident ever observed being a slight stomatitis. Precautions should be taken: analysis of the patient's urine and disinfection of the patient's mouth.

Dr. Queyret uses only gray oil in the ambulant treatment of syphilis at the polyclinic of the Cochin-Annex Hospital. He treats, at that hospital, from 5,000 to 7,000 cases every year, and has not observed any serious accidents. It is a perfect treatment for syphilis and should not be discredited.

Dr. Danlos had seen phlegmons and abscesses resulting from the hypodermic injection of insoluble preparations of mercury. Unless in instances in which great haste is required, syphilis can be satisfactorily treated with medicines taken by the mouth.

Dr. Antony knew of some cases in which neuritis had ensued, and others in which phlegmons had occurred after the hypodermic use of insoluble preparations of mercury.

Dr. Thibierge explained that one must distinguish between the various insoluble preparations of mercury used in hypodermic medication. Calomel is an excellent means of treatment; but, when injected hypodermically, calomel is painful and may cause antiseptic suppuration. With gray oil it is quite different, if a rigorous technic is employed. The needle should be plunged deeply into the muscular tissue. Large needles should not be used, as the holes they make are too large, permitting the gray oil to flow back into the subcutaneous cellular tissue.

Dr. Le Gendre thought that injections of the soluble salts of mercury were preferable to the insoluble ones, in cases in which non-syphilitic albuminuria existed in a patient who, for severe symptoms of syphilis required an immediate mercurial treatment by the hypodermic method.

Dr. Brocq also expressed concurrence in this last view. A

practitioner, when using the soluble salts of mercury, is in a position to stop the hypodermic administration of mercury at the slightest alarm.

In reference to the case reported by Drs. Le Noir and Camus, an interesting observation was made, at the ensuing meeting of the Société Médicale des Hôpitaux by Dr. Sicard. This observation referred to a young woman in whom very grave symptoms of mercurial poisoning appeared after she had received four hypodermic injections of gray oil. These injections had been given in classic style, every eight days, and the total dose did not rise above 35-40 centigrammes of metallic mercury. An examination of the patient enabled Dr. Sicard to find that there was a large lump in one of her buttocks. When examined by the X-ray, the seat of this lump proved to be a perfect dermo-muscular remnant of metallic mercury. Surgical removal of the remnant was followed by disappearance of the toxic phenomena complained of, and the patient got well. In reference to this last application of the X-rays, a special correspondent of the *British Medical Journal* at Paris advises (Feb. 3, 1906) "that, if a patient happens to find that he has received too full measure (mercury) he should be examined forthwith by X-rays, and when the mine is located it may be extracted by a surgeon who is not afraid of spoiling his instruments." All of which is quite reassuring; but if, in the presence of severe symptoms of syphilis, the therapeutic effects of mercury can be promptly obtained by the use of a soluble salt of mercury, why not prefer it to an insoluble one?

J. J. C.

THE FIFTEENTH INTERNATIONAL MEDICAL CONGRESS AT LISBON.

THE fifteenth International Medical Congress, held at Lisbon, the capital of Portugal, April 19-26, was attended by about one thousand members. Among the more noted English physicians present were Sir Dyce Duckworth, Sir Thomas Barlow, Dr. Pavy, Dr. Ferrier, Dr. Radcliffe Crocker, Professor J. Moore (Liverpool Cancer Research), Mr. D'Arcy Power, and Mr. C. Riviere. Among the Germans were Professor Waldeyer, Professor Curschmann, Professor Quincke, Dr. Schaudinn, Professor Posner, Professor Unger, Professor Lociller, and Professor Verworn. From



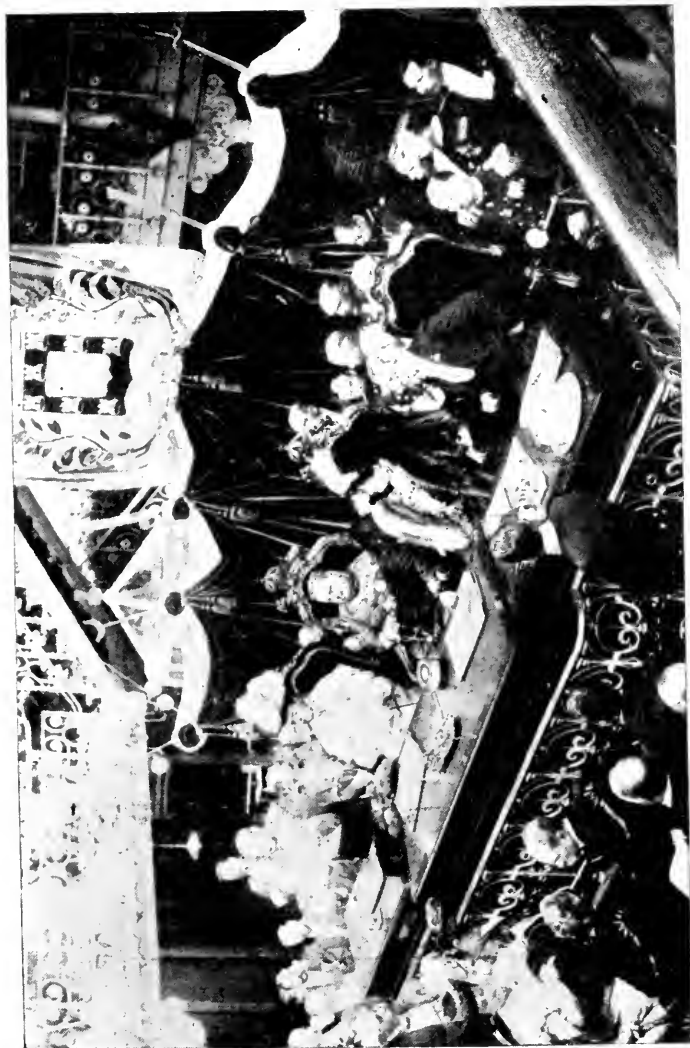
THEIR MAJESTIES THE KING AND QUEEN OF PORTUGAL, WHO FORMALLY OPENED THE INTERNATIONAL MEDICAL CONGRESS AT LISBON.

France were Professors Cornil and Bouchard, Drs. Blondel, Vaillard, and Josias. Major Charles Richards represented the United States, and from Spain were Drs. Ramon y Cajal and Cortezo. Dr. Pynappel was among the Dutch delegates; Drs. Obersteiner and Müller represented Austria-Hungary. Professor W. Oldwright represented the Province of Ontario (Canada).

The opening meeting of the Congress took place in the hall of the Geographical Society, Lisbon, April 20th, 2 p.m. The *Lancet* says: "Soon his Majesty Dom Carlos was seen walking up the centre of the hall. Three monumental chairs had been placed behind the table on the platform. The King occupied the central chair; on his right sat her Majesty the Queen, and on his left the Queen Mother. The royal party were flanked on the right by the President of the Congress, Councillor Costa Alemão, and on the left by the General Secretary of the Congress, Professor Miguel Bombarda. A few representatives of foreign governments, who happened to be near at hand, were then presented to the King. There then ensued a momentary deep silence and expectancy, which was only broken when the King, in a clear, resonant voice, and speaking the purest French, began his address. The speech, which was a fine effort, was warmly applauded, especially some references to the efforts of the Queen of Portugal to provide means for the struggle against tuberculosis. Addresses were made by Councillor Costa Alemão, who spoke next as President of the Congress, and Professor Miguel Bombarda, as Secretary General of the Congress.

A number of addresses, twenty-four in all, were delivered by representatives of the different nationalities. Thus Professor Waldeyer, Berlin, spoke for Germany; Professor H. Obersteiner for Austria-Hungary; Dr. Dejae for Belgium; Dr. Richard for the United States; Professor Cornil for France; Sir Dyce Duckworth for Great Britain.

The work of the different sections began on the morning of April 21st, and closed on April 26th. The scientific labors of the Congressists were agreeably diversified by important social events: receptions, garden parties, and a gala bull-fight. The King of Portugal entertained at dinner some two hundred guests. These were the delegates sent by the various governments to the Medical Congress, and the members of the Executive Committee of the



OPENING CEREMONIES OF THE INTERNATIONAL MEDICAL CONGRESS AT LISBON.

Congress. In the afternoon of Sunday, April 22nd, the members of the Congress enjoyed a truly Portuguese entertainment—a gala bull-fight at Villa-Franca. The King and all the royal family manifested their sympathy for the Congress by honoring with their presence the gala bull-fight given in their honor.

On Monday evening, April 23rd, the Geographical Society of Lisbon gave an entertainment in honor of the Congress, in the same great hall where the opening ceremony had taken place.

On Tuesday evening, April 24th, the King of Portugal gave a garden party in the gardens of Las Necessidades Palace.

On Wednesday evening, April 25th, a great reception was given in the Town Hall of Lisbon.

The formal closure of the Congress took place April 25th, when speeches were made by Professor Müller, of Buda-Pesth, President elect of the Congress, and others.

From a perusal of the reports prepared by the special correspondents of the *Lancet*, the *British Medical Journal*, and *La Presse Medicale*, a reader would conclude that the Lisbon Medical Congress was very pleasant to those who had the happiness to attend it. Much of the success of this Congress was doubtless due to the efforts of the Executive Committee, who had been working for three years in advance; much to the efforts of the King and Queen of Portugal; and very much indeed to the willingness with which the Portuguese physicians gave their time and trouble to render the hours passed by the Congressists in Lisbon as agreeable and instructive as possible. The Portuguese people were also very cordial to the guests who had come from afar to visit their country. In public places, theatres, hotels, restaurants, shops in the streets, they showed great courtesy and eagerness to impart any information required by the visitors.

The work done in the sections will doubtless prove interesting reading. Nothing of a spectacular character was introduced.

The next meeting of the International Medical Congress is to be at Buda-Pesth, Hungary, in 1909.

A strong effort, voiced by Dr. Guiteras, was made to bring it to New York; but the Executive Committee had practically committed itself to accepting the former. The total vote was in favor of Buda-Pesth by a majority of eleven.

A decision was arrived at by the Congress denying the rights

of membership to dentists. A vote was taken as to whether dentists should be admitted or not in future, and it was determined to exclude them. The feeling on this point was decided and strong, the prevalent opinion being, that a medical congress was only for medical men.

J. J. C.

EDITORIAL NOTES.

A Practical Diagnostic Sign of Death.—Dr. Ott, of Lillebonne, France, uses the flame of a candle, a lighted match, or the flame from a piece of burning wood as a means of producing a diagnostic sign of death (*La Presse Médicale*, 14 Avril, 1906). The region selected for the test is the anterior surface of one of the forearms, which can be easily bared and is devoid of hair. The bared arm is extended horizontally, its anterior surface turned towards the ground, at such a distance from the latter that the hand of the operator and the source of heat he carries may be freely moved between the arm of the subject of the test and the ground. Should the wind be blowing at the time, a coat held to windward will be a sufficient screen to enable one to realize the experiment. Everything being ready, the flame of a candle is placed beneath the arm of the subject, the elongated tip of the flame lightly touching the skin. The closest attention should then be paid to the spot touched by the flame. In a few seconds a swelling of the skin appears, and then bursts with a slight noise, which is nearly always audible to the bystanders. This swelling is produced so rapidly that it excites surprise the first time it is observed. Two or more trials are necessary in order to accurately recognize its production. An examination of the burned spot reveals an area about the size of half a dime upon which the epidermis is raised. On the borders of this area the shrivelled remains of the burned epidermis are seen; but no liquid appears, no exudate is produced. If this experiment were tried on the body of a living person a blister containing serum or an eschar would be produced instead of a gaseous vesicle. Dr. Ott affirms that, if this test results in the production of a gaseous vesicle which bursts, the death of the subject tested may be pronounced, for a gaseous vesicle can only be produced after the complete arrest of all circulation.

The Heart of Rameses II.—Dr. Lortet reported to the Académie des Sciences, Paris (*La Presse Médicale*, 11 Avril, 1906) the results of his examination of the contents of four Canopic jars bearing the arms of Rameses II., the Sesostris of the Greeks. These jars were recently purchased by the national museums of the Louvre and were said to contain the viscera of that king. In one of the jars the heart of Sesostris was found, and the following is the result of an examination of it made by Dr. Lortet and his colleagues, Professors Hugonienq, Renault and Rigaud. The organ was transformed into an oval plate, nearly 8 centimetres in length by 4 centimetres in width. The substance of the heart had become hard, and of horny consistency, requiring the use of a saw for section. Fine slices made with a razor showed, on microscopic examination, that the horny substance consisted of well-formed muscular fibres, lying side by side, striated and united at frequent intervals by short branches. This special arrangement of the muscular fibres of the heart not being met with in any muscle of the human economy except in the tongue, and the mummy of Rameses II., which is preserved at Cairo exhibiting that organ, Dr. Lortet declares that without any doubt the substance found in the Canopic jar is really the heart of Sesostris, transformed into a horny substance. The hardening was due to the fact that native sodium carbonate (natron), and various aromatic resinous substances had been used in embalming the heart of the Egyptian king, some 3464 years ago. We understand that there is some question as to whether the heart examined by the French anatomists is that of Rameses II. or not. Goodrich ("A History of All Nations") says: "The reign of Rameses III. (The Great), or Sesostris, a king of the eighteenth dynasty, follows soon after, and is fixed by Manetho's list, as well as by comparison of various monuments, at 1565-1499 B.C. The era of Sesostris, the Egyptian hero, would therefore be 3405-3461 years before our days, instead of 3464 years. There seems to be little doubt, however, that the specimen examined by Professor Lortet and his colleagues belongs to the period of Rameses II., and that it is a heart."

The Physiological Effects of Tea as a Beverage.—The physiological effects of tea are generally attributed to its alkaloid, theine or caffeine, but Sir Lauder Brunton finds that another ele-

ment, as yet undetermined, must also be taken into account in estimating the physiological effects of this beverage. For instance, green tea does not contain more theine than black tea, but its action on the nervous system is more marked, an effect which is not due to its greater richness in tannin. As green tea and black tea are gathered from the same plants, the difference observed in their physiological effects may be due to different methods of preparation. The leaves for green tea are heated or roasted slightly, in shallow pans, over a wood fire, almost immediately after being gathered, after which they are rolled with the hands upon a table to free them from a portion of their moisture, and to twist them, and are then quickly dried. Those intended for black tea are spread out in the air for some time after being gathered, and then tossed about with the hands until they become soft and flaccid, when they are roasted for a few minutes and rolled, and having been exposed to the air for a few hours in a soft and moist state, are finally dried slowly over a charcoal fire. The operation of roasting and rolling is sometimes repeated several times, until the leaves have become of the proper color. On account of their finer aroma and more stimulating properties, the teas of Ceylon and India are preferred to the teas of China. If the infusion is made in two or three minutes, and if the quantity of tea used is moderate, the Cingalese and Indian teas produce no harmful results. However, it must be understood that they contain more tannin than Chinese teas and are therefore less suitable than the latter for the use of persons afflicted with dyspepsia. Well prepared tea is an inoffensive, healthful beverage, but tea rich in tannin gives origin to dyspepsia. The use of green tea produces disorder of the nervous system, but the source of this injury is thought by Sir Lauder Brunton to be due to some other element than theine.

Does the Inhalation of Lime Produce Immunity to Tuberculosis?—In the section of Hygiene and Colonial Medicine at the Lisbon International Congress of Medicine (*The Lancet*, May 19, 1906), Dr. Gaspar Fiasc read a paper to show that lime and plaster workers were protected from pulmonary tuberculosis. Many provincial medical men had observed this fact. It would seem that breathing the dust of lime and chalk acted as a preventive; for in the same districts other sections of the population suffered

as usual from this disease. Concellor Dr. G. Ennes thought the suggestion made was somewhat empirical. No theory had been advanced. Lime dust might have some action, but plaster was quite neutral. Dr. Loettler inquired whether any experiments had been made with animals. Dr. Fisac replied in the negative; but said that he had made patients breathe a mixture of lime and pulverized plaster, and with good results. It seems very probable, that lime, quicklime or calcium oxide, which rapidly destroys organic matter would inhibit the growth of the bacilli tuberculosis expectorated in a locality where lime was abundant, and that such bacilli would rapidly cease to be infective. Workers in limekilns discharge their duties in the open air; plasterers work in the open air, or else in buildings to which there is a free access of air and in which they are not crowded. The presence of lime in the air they breathe cannot be considered an advantage unless because it necessitates very free ventilation in a building or exposure to the open air. How different the condition of sailors in modern ships! It is said that in the British Navy, between 1883 and 1890, diseases of the lungs increased 60 per cent. Though less exposed to cold and wet than the sailors who had to do with masts, sails and rigging, the influence of lessened exposure to bad weather has been more than counterbalanced by the change in conditions below the decks, the sailors living now in a very crowded condition, in hot, steel ships. The influence of lime in protecting certain tradesmen from tuberculosis seems to be more like a coincidence than a cause.

Therapeutic Advantages of the Hot Bath.—Dr. La Riviere (in *Annales de Physico-thérapie*) dilates on the therapeutic advantages of the hot bath. He writes: "The feeling of well-being experienced after a hot bath (99 to 102 degrees F.) is due to an increase in the exhalations from the skin, to the harmonious regulation of the functions of the nervous system, to stimulation of the circulation, and, very often, to revulsion from engorged and atonic viscera. The hot bath tempers cerebro-spinal activity, refreshes the muscles, calms general irritability, brings rest, and gives new strength to the tired limbs. It is an excellent remedy in acute and sub-acute skin diseases, in febrile tendencies (without marked hyperpyrexia), in syphilis, uterine disorders, varices, phlebitis and hemorrhoids, neurasthenia, hypochondria, convul-

sive seizures, enteritis, enteralgia (nervous colic), dysmenorrhea, habitual diarrhea, chronic articular rheumatism, arthritis deformans. The contra-indications are plethora, hyperemic tendencies of the nervous centres, and advanced tuberculosis, on account of the danger of hemorrhage.

The Inspection of Meat and Meat Products at Chicago.—

Severe comments have recently appeared in the newspapers of Canada on the meat and meat products of Chicago and it is but fair to reproduce the defence, which appears in the bulletin of the Chicago Department of Health, issued June 9, 1906. It appears that, during seven months, January to July, 1905, inclusive, 453,957 pounds, a monthly average of 64,851 pounds, were destroyed as the outcome of inspections made in the "loop district" of Chicago. These inspections covered all food supplies—meats, fish, poultry, game, oysters, fruits, vegetables, canned goods, etc. During the succeeding period, August, 1905,–May, 1906, more drastic inspections were inaugurated by the new Health Commissioner, Dr. Charles T. Whalen. The condemnations amounted to a total of 1,560,171 pounds, a monthly average of 156,047 pounds, or more than twice as much (140.6 per cent.) more than during the earlier period on the same district. These inspections made in "the loop district" would protect the food supplies used by the inhabitants of Chicago. As is well known, however, enormous droves of cattle and hogs are slaughtered and their meat dressed in packing houses situated in the Union Stockyards of Chicago. It appears that the inspection of the Union Stockyards had been suspended for some years prior to August 7, 1905. There can be no doubt that grave abuses, insanitary conditions and practices existed in some, if not all, of these packing houses. In spite of these shortcomings, great quantities of diseased and unwholesome meats, which were packed in them, were afterwards placed on the market throughout the United States and other countries. Sufficient proof of the correctness of this statement is contained in the frank admission of the Chicago Commissioner of Health. He writes: "August 7, 1905, inspection of the Union Stockyards slaughter and packing houses, etc., was ordered to be resumed. This inspection covers meat and meat products exclusively. During the ten months of this service, ended May 31,

1906, an aggregate of 5,164,392 pounds of diseased and unwholesome meat was condemned and destroyed by the meat inspectors of the Department in the Union Stockyards." The Chicago Health Commissioner deserves credit for this curtailment of the privileges of the Chicago meat packers. If a monthly average of 516,439 pounds of diseased and unwholesome meats is now being destroyed in the Union Stockyards at Chicago, it is reasonable to assume that similar, or even larger, average amounts were placed on the market, every month, during the pre-inspection period. Looked at from the standpoint of a fastidious appetite, this is not an agreeable subject for rumination,—but what a tribute it is to the protective powers of the human alimentary canal!

J. J. C.

PERSONALS.

DR. H. A. BRUCE, AND DR. J. J. CASSIDY, of Bloor Street East, have recently made great improvements to their residences.

DR. D. K. SMITH, of Jarvis Street, has purchased a lot on Wellesley Street, near Yonge Street, and intends building this Autumn.

It is expected that about 300 of the prominent men in the profession from England and the Continent will be in Toronto the latter part of this month to attend the British Medical Association Meeting.

It is with great pleasure that we announce that one of Toronto's most capable physicians, in the person of Dr. Allen Baines, of Bloor Street West, has consented to identify himself with this Journal in the department of Pediatrics.

DR. W. H. B. AIKINS AND DR. H. H. OLDRIGHT, of Toronto, returned a few weeks ago after spending a delightful time at the International Congress at Madrid.—Dr. McPhedran found that he could not be present at The Congress, but visited Italy instead, spending, on his way home, some weeks in England.

PROFESSOR LOUBOX resigned the Presidency of Toronto University last month and the Board of Governors are now eagerly looking for a gentleman of scientific attainments to take his place. Their eyes are at present attracted towards the Mother Land, several names having been suggested for the vacancy. Prof. Wm. Osler, of Oxford, has definitely stated that he cannot consider any offer in this direction.

News of the Month.

ONTARIO MEDICAL COUNCIL IN ANNUAL SESSION.

THE Medical Council of the Ontario College of Physicians and Surgeons is in annual session at the Temple Building. Meetings commenced on Tuesday afternoon, July 3rd, and remained in session till Friday, evening, the 6th. The Council dealt with much business of importance. To Dr. W. H. Moorhouse, of London, who represents the Western University, London, on the Council, fell the honor of being President of the Council for the ensuing year. Other officers chosen at the first meeting of the session were as follows: Vice-President, Dr. Spaulkie, Wolfe Island; Treasurer, Dr. H. Wilberforce Aikens; Registrar, Dr. A. R. Pyne; Counsel, Mr. H. S. Osler; Prosecutor, Mr. Chas. Rose; Auditor, Dr. J. C. Patton; Stenographer, Mr. Angus.

After the election of officers, Dr. A. A. Macdonald, last year's President of the Council, vacated the chair in favor of Dr. Moorhouse, and both the President and Vice-President gave addresses thanking the Council for the honor of election.

The Council met again Wednesday morning at ten o'clock, the new President being in the chair. On motion of Drs. Bray and Macdonald, it was decided to place the name of Dr. William Osler upon the register of the Council, "as a slight recognition of his great ability and the high standard he has attained in his profession."

The Discipline Committee selected for the coming year is composed of Dr. J. L. Bray, Chatham; Dr. J. A. Robertson, Stratford; Dr. G. Henderson, Strathroy, and Dr. J. Lane, Malorytown.

The Council decided to deal with the charges of alleged breach of the Medical Act against Dr. Soper, of Toronto, and Dr. Crichton, of Cobourg. Upon taking up the case of Dr. Soper, it was decided to accept his apologies for his past misconduct, and his undertaking that there would be no recurrence in the future.

The Committee on Legislation reported the recent amendment passed by Parliament enabling the Council to hold professional examinations in London, as well as in Toronto and Kingston. On the advice of Mr. H. S. Osler, K.C., the committee had not pressed for legislation on the question of a legalized tariff, owing to the varying circumstances of practice, but had decided to recommend

the Associations of the territorial districts to frame a tariff suitable to their district for their professional guidance. It had also been decided on the same legal advice not to include in the bill the proposed legislation with reference to actions of malpractice. It was thought that if the bill were passed by the House the utmost that would be granted would be a provision that the amount of the account of the doctor in question should be paid into court in such an action. The amended bill included a clause interpreting the word "medicine" to mean "the art of healing, or attempting to heal disease by advice or any form of treatment."

The case of Dr. L. E. Shepherd, of Toronto, who was struck off the list of licensed physicians some years ago, was again brought up for consideration, but the Council decided not to reinstate him. The Discipline Committee withdrew their recommendation and will make a further investigation. As to Dr. Crichton, the Council removed his name from the list of practitioners.

The Council passed a resolution of regret at the retirement of Dr. C. T. Campbell, of London, who has been appointed Inspector of Post-Offices by the Dominion Government. Dr. Campbell has been a member of the Council for many years. He made an appropriate reply.

Dr. E. Ryan, of Kingston, Ont., suggested that the new building should be of stone, and two storeys only. Its purposes were administrative and not educational. At present it was not necessary to make provision for either library or museum.

After much discussion the entire question of size, shape, site, and plan of the new building was again referred to the Property Committee.

Mr. Frank Darling was appointed architect.

When the Council adjourned at noon the members went over to the Royal Canadian Yacht Club's Island quarters, and took lunch as the guests of the Toronto members.

Sir James Grant, M.D., of Ottawa, who attended the meeting of the Ontario Medical Council, made an important motion, which was adopted by the Council, with a view to preventing the spread of tuberculosis. The resolution was as follows:

"That the Executive of the Government of Ontario be invited by this Council to take into consideration the desirability of appointing medical examiners in the Public Schools in the chief centres of Ontario in order to guard the lives of the rising generation against tuberculosis, inasmuch as such precaution is becoming general in the most progressive countries at the present day."

Sir James said that, in view of the fact that there were 8,000 deaths in Canada annually from the white plague, and that each life was estimated to be worth \$1,000, the importance of some

such move should commend itself to all. Similar action had been taken in a large number of European and United States cities. In his opinion a large proportion of the cases originated in the Public Schools.

The Council adopted the recommendation of the Registration Committee that Messrs. Ardiel and Lyon be refused the privilege of registering as matriculants, under special conditions. These two students served in South Africa during the year that they would otherwise have matriculated. The members thought that enough exceptions under these conditions had already been made.

QUEEN'S UNIVERSITY VISITED BY \$70,000 FIRE.

QUEEN'S Medical College Building, Kingston, was destroyed by fire, July 4th.

The blaze was discovered shortly after seven o'clock, and five minutes later the firemen had streams playing into the burning building, and in an hour had the blaze under control, but the whole interior is a complete loss.

All that was saved was the secretary-treasurer's books.

Valuable medical apparatus and specimens that cannot be replaced all became a prey to the flames.

The building and contents were valued at about \$70,000. There is insurance of \$22,000.

This fire is the first to visit Queen's in its history on the present grounds. Four years ago an extra storey was added to the building at a cost of \$11,000. It was the intention of the faculty to renovate the medical college as soon as the biological building was erected. These plans can be carried out now to a certain extent.

The fire, it is thought, originated from a gas jet kept burning in an oven where paraffine moulds are made.

By the destruction of the College the bacteriological and public health laboratories are wiped out and serious inconvenience will result.

The metal tank containing a number of bodies for dissecting purposes is in the basement, and the fire did not get at it.

Repairs will be started at once, and the college will be ready for the fall opening.

ITEMS OF INTEREST.

Ontario Medical Association.—The Executive Session of the Ontario Medical Association will be held in Toronto on Monday, the 20th of August, at 8 p.m. All members are respectfully requested to attend, in order that the business of the year may be finished, including election of officers for the ensuing term.

The Provincial Board of Health at St. George.—The closing sessions of the third quarterly meeting of the Provincial Board of Health were held in the residence of the chairman, Dr. Kitchen, at St. George. The very elegant hospitality extended to the members and officers of the Board by Dr. and Mrs. Kitchen, July 5th and 6th, will always be gratefully remembered.

The Canadian Medical Association.—The Canadian Medical Association meets on the afternoon of the 20th of August and the forenoon of the 21st, for the discussion of business. The Association will convene in the new Science Building on College St., opposite McCaul, the chief item of business being the report of the Special Committee appointed to consider re-organization. We trust that the members will turn out in full force.

Dermatological Section of the British Medical Association.—The local committee of the Dermatological Section of the British Medical Association desires any Doctor who has any interesting case of skin disease, to communicate with the secretary, Dr. D. King Smith, 311 Jarvis St., as arrangements for the presentation of cases at the clinic will be made by the committee.

A Physician Wanted Immediately.—Just as we go to press we have received word that a physician, preferably one of the Methodist persuasion, is wanted immediately for Georgetown, Ont. It seems that there is a good vacancy there, so that any young, active graduate in medicine desiring to make a change might benefit himself by communicating with the Rev. H. A. Cook, Methodist minister, Georgetown, Ont.

The Provincial Board of Health Entertained at Hamilton.—The Provincial Board of Health were very handsomely entertained by the chairman and members of the Local Board of Health, Hamilton, July 4th and 5th. A portion of the third quarterly meeting of the Provincial Board of Health was held at Hamilton on these dates, in order to enable the members to personally examine the insanitary conditions prevalent in and about Coal Oil Inlet, Hamilton.

To Use Part of Mercer for Care of Aged and Insane Women who are Harmless.—Part of the Mercer Reformatory which was used as a rescue for girls, and since the housing of the inmates in foster homes has been closed, has been converted into a ward for harmlessly insane old women and will supplement the asylums of the Province. There is room for 125 patients, and it will be in charge of Dr. Clark, of the Queen Street West Asylum, from which place the first quota were removed July 4th.

Special Rate to the Coast for Members of the British Medical Association.—Canadian members of the British Medical Association who intend to avail themselves of the special rate, single fare (\$67.25) excursion to the Pacific Coast at the close of the meeting in August, should communicate their intention at once to the General Secretaries, Medical Laboratories, University of Toronto, in order that information may be given to the railways of the probable number for which provision must be made.

The British Medical Association to Build New Premises.—In an editorial on page 86 of the July issue, we stated, by mistake, that the present premises of The British Medical Association, 429 Strand, London, England, were only leased. This we find is an error. As a matter of fact, the Association owns the freehold, and, so much has the business grown, that it is highly probable this autumn that the present building will be razed to the ground and more suitable and commodious premises erected at an outlay of close on £40,000. We make the correction with pleasure.

Appointed Trustees.—The benefactors of the new General Hospital to be erected in connection with the University, held a meeting in the office of Superintendent Dr. J. N. E. Brown at the hospital the first week in July, and chose the following as their representatives on the Board of Trustees on the new institution: J. W. Flavell and W. E. Rundle to hold office until January 31, 1908; C. D. Massey and H. C. Cox until January 31, 1909, and H. H. Fudger, P. C. Larkin and M. J. Haney until January 31, 1910. Sixty ballots were cast.

Sparkling "Apenta," which has recently been put on the market, is natural Apenta Carbonated, bottled at the Apenta Springs, Budapest, Hungary, and is put up in cases of 50 "Splits"; it is a pleasant and refreshing aperient for morning use. The whole of the Split bottle is usually taken as the morning dose.

House Staff of Toronto General Hospital.—The last meeting the old Board of Trustees of the Toronto General Hospital was held on July 6th. Appointments to the house staff for the next

term were made, the following being chosen: W. F. Lemon, Aylmer, Ont., the holder last year of the George Brown memorial scholarship; J. A. Kinnear, Toronto; G. S. Strathy, for the past year house surgeon at the Sick Children's Hospital; C. E. Spence, Toronto; H. Glendinning, Valentine, Ont., and A. W. Beattie, Pond Mill, Ont., a graduate of the Medical College of the Western University, London, and the only outsider who was an applicant.

University Governors Appoint Five Trustees to General Hospital Board.—The Board of Governors of the University of Toronto met for the first time in the senate chamber on June 30th for reorganization purposes. Sixteen members were present. Chief Justice Charles Moss was elected vice-chairman of the Board. The Board exercised its right to the appointment of five trustees to the General Hospital. The appointed are: John Hoskin, LL.D.; Rev. J. A. Macdonald; Prof. James London; Byron E. Walker, LL.D.; W. T. White. An interim executive committee of eight members was appointed. Three minor committees were also appointed each of which will lapse as its work is reported. It was decided that every member of the Board should be notified prior to each session of the Executive Committee. The reason for not making this committee permanent is because of the anticipated absence of several of its members during the next two months.

Distribution of Liege Exhibition Awards.—The Awards to the British Section of the recent Liège Exhibition were distributed on June 13th. The proceedings took place at the Mansion House, and the Lord Mayor, Alderman W. Vaughan Morgan, occupied the chair. Mr. Imre Kiralfy, the British Commissioner-General, read a report upon the Exhibition, and the meeting was subsequently addressed by the Belgian Minister, Count de Lalaing, Sir Albert Rollit, M. Edouard Seve, Sir William Holland, and the Lord Mayor. The diplomas were then presented by Count de Lalaing. A notable feature of the ceremony was the receipt by Burroughs Wellcome & Co., of five awards of Grand Prix, three Diplomas of Honor, three Gold Medals and one Silver Medal.

New University Board.—New University Board of Governors selected by the Ontario Cabinet are as follows: For two years' term—Dr. John Hoskin, K. C., Chairman; Hon. S. H. Blake, K.C.; Sir Mackenzie Bowell, Belleville; James L. Englehart, Petrolia; Rev. Father Teefv; Judge Colin Snider, Hamilton. For four years' term—Byron E. Walker; G. R. R. Cockburn; Chester D. Massey; Rev. D. Bruce Macdonald; W. T. White; E. C. Whitney, Ottawa. For six years' term—Goldwin Smith; Chief Justice Moss; E. B. Osler, M.P.; J. W. Flavell; Rev. J.

A. Macdonald; H. T. Kelly; also the Chancellor of the University, Sir W. R. Meredith, and the President.

Thanks for Many Letters of Congratulation.—Last month we published a special British Medical Association number. We tried to make it as attractive and interesting as possible to our readers. Even such graybeards as Medical editors are only boys grown tall, consequently we were delighted at the scores of kindly letters from "over the hills and far awa" that came pouring into the office. Letters full of words of congratulation and commendation, in which we confess a pardonable pride, and for which we wish to express to one and all our gratefulness, and our lasting appreciation of the kindly thought that prompted the sending of them. (The Editors.)

The American Roentgen Ray Society.—The 7th Annual Meeting of the American Roentgen Ray Society will be held August 29, 30, 31, 1906, at the Cataract and International Hotels, Niagara Falls, N. Y. A large and interesting programme containing the names of the best-known X-ray workers of this country, as well as a number from abroad, has been prepared. An interesting feature of this meeting will be the exhibit of prints and negatives. The railroads have granted a rate of a-fare-and-a-third on the certificate plan. The officers of the Society are: President, Dr. Henry Hulst, Grand Rapids, Mich.; Secretary, Dr. Geo. C. Johnston, Pittsburg, Pa.; Treasurer, Dr. Leavitt E. Custer, Dayton, Ohio; Vice-Presidents, Dr. Russel H. Boggs, Pittsburg, Pa.; Dr. Clarence E. Skinner, New Haven, Conn.; Dr. Emmon G. Williams, Richmond, Va.; Dr. Eugene W. Caldwell, New York, N.Y.

American Orthopedic Association.—The American Orthopedic Association will meet in Toronto on Monday, August 20th, and its members will all be accommodated at the King Edward Hotel, where, also, many of its meetings and some of its social functions will be held. The first meeting for business will be held at twelve o'clock, noon, on Monday, August 20th. Afternoon and evening sessions also will be held for the discussion of scientific papers. On Tuesday there will be meetings at nine-thirty, two-thirty and seven-thirty also for the discussion of papers and presentation of apparatus. On Wednesday morning the Association will meet at nine-thirty at the Toronto Orthopedic Hospital. Most of the prominent men in the profession in America practising orthopedic surgery will read papers and several eminent European surgeons will also be present. Various social functions will be held in honor of the guests. This is the first meeting of the Association held outside of the United States and the president this year, Dr. B. E. McKenzie, is the only surgeon, not a citizen

of the United States, who has occupied the chair. The citizens of Toronto and the profession will no doubt extend a very cordial welcome to the members of the American Orthopedic Association.

Apenta Water from the Natural Bitter Water Springs near Budapest) is a Natural Aperient Water. What is especially remarkable in Apenta Water is the proportion of the sulphates of soda and magnesia, of which the latter is predominant. It contains also lithium salt. Like other waters of the class known as Hungarian Aperient Waters, Apenta is found at no great depth in the earth, generally about 15 to 20 feet. The chemical composition is due to solution of the chemical salts in the strata through which they flow. Considering how generally Hungarian Aperient Water is prescribed, it will be assuring to medical men to learn authoritatively that the working of the Apenta Springs is carried out not merely on commercial lines, but also in a scientific manner, the Apenta management being under the scientific and hygienic supervision of Prof. Dr. Leo von Liebermann, Royal Councillor, Professor of the Hygienic Institute of the Royal University at Budapest, and formerly Director of the Imperial Chemical Institute. The London *Lancet*, speaking of Apenta, says: "Its composition is constant. The practitioner is thus enabled to prescribe definite quantities for definite results."

Results from Use of Phytin—Dr. G. Schroeder. New medicines and nutritious products for the treatment of pulmonary tuberculosis (*Zeitschrift für Tuberculosis & Heilstättewesen*, t. 7, page 242, 1905). We have obtained good results with a new phosphorus preparation—Phytin. It is a combination of organic phosphorus, perfectly assimilable and non-poisonous. According to the researches of Loewenheim, the preparation has good effects in cases of rachitis, anemia, neurasthenia, general debility, and pulmonary tuberculosis. The dose prescribed is 1 gramme daily. We observed in several cases that the use of Phytin was followed by an amelioration of the appetite, the state of the blood, and a considerable augmentation of weight.

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Original Contributions.

ADDRESS IN OBSTETRICS.*

BY W. S. A. GRIFFITH, M.D., F.R.C.P., F.R.C.S.

Assistant Physician-Accoucheur, St. Bartholomew's Hospital, London.

THE TEACHING OF OBSTETRICS.

MAY I be permitted, before entering on the subject proper of this address, to make a brief reference to the addresses delivered by my predecessors? They are few in number, and appear to have been given only on exceptional occasions.

That this should be one of those special occasions has been wisely determined by the Council of the Association, and they have placed on me the responsibility of endeavoring to make some adequate use of the opportunities which such an occasion affords.

The first, and in some respects one of the most interesting of these addresses was given at the thirty-first annual meeting of the Association, held at Bristol in 1863, by Dr. J. G. Swayne, Physician-Accoucheur to the Bristol General Hospital, and Lecturer on Midwifery at the Bristol Medical School. It is recorded in Vol. II. of the *British Medical Journal* of that year, p. 178, and it will be noticed that of the many subjects discussed in this address, the obstetric use of chloroform, version of cases of obstructed labor, the treatment of placenta praevia, Caesarean section, blood-letting and chloroform in puerperal convulsions, the nature of thrombosis and of phlegmasia dolens, and the operation of ovariectomy, almost all are still matters under discussion.

As regards the obstetric use of chloroform, he says that although

* Delivered at the Seventy-fourth Annual Meeting of the British Medical Association, Toronto, August 21-25, 1906.

it had been used for over fifteen years, obstetric authors were not agreed as to the extent or the frequency with which it should be administered, and in reading his arguments for and against the use of chloroform we can see that medical men at that time had *not* learnt how to administer it in such a way as would ensure to the patient the needful relief from suffering, while interfering as little as possible with the normal action of the uterus. He concludes by saying that in normal labor especially he would not administer chloroform, but would rather let well alone than interfere with the course of Nature. Apparently very many practitioners of to-day agree with his views, and not having been taught the proper method of administration, they allow many a patient to suffer severely during labor without affording the relief that chloroform can give.

Many of us will agree with him in his conclusions as to the treatment of placenta praevia, namely, that the method of version and extraction by the feet must after all be our main resort, being that most often suitable and, be it added, successful. The cases which are exceptional and require other methods are those in which the difficulty of dilatation of the cervix is considerable.

Of the other subjects he discusses, that of the operation of ovariectomy (then still in its infancy) must interest us particularly. Here are seen some of the pioneers of this operation: Spencer Wells, Baker Brown, Tyler Smith, and Clay, with the results involving a mortality in selected cases of from 50 to 30 per cent. Dr. Tyler Smith, then President of the Obstetrical Society of London, whose papers will be found in the third volume of the *Transactions* of that Society, is quoted as having had seven recoveries out of twelve cases, and that "one of the most remarkable features in these cases was, that in two of them the pedicle was tied with a silk ligature, the pedicle and ligature being cut as short as possible, and dropped into the abdomen without producing any bad results."

The address in 1884 was given by Dr. G. H. Kidd, of Dublin, at the meeting at Belfast. It is recorded in the *British Medical Journal*, Vol. II., p. 217, of that year. The subject was Puerperal Fever, treated chiefly from the clinical point of view. While rightly exposing the fallacy of the theory of scarlet fever as a cause of puerperal fever, he refused to admit the general septicaemic theory, because it did not include groups of cases which he supposed due to a specific epidemic disease. The twenty-two years which have elapsed since that date have brought evidence which convinces all who study the matter under favorable conditions that the cases commonly grouped under the head of "puerperal fever" are in the main cases of septicaemia arising as the result of infection introduced from without in connection with the process of

labor and the lying-in, and that this septicaemia is to be prevented by the prevention of this infection. In addition to this, the principal group, there remains a small fraction of cases in which the infection, although introduced from without originally, has remained almost dormant within the body until labor has provided the opportunity for its extension. The theory of a specific epidemic disease has vanished.

The next address was delivered in 1893 at Newcastle-on-Tyne by our revered colleague, Dr. Cullingworth, who is occupying his leisure from active hospital work by editing the *Journal of Obstetrics and Gynaecology of the British Empire*. His address will be found in the second volume of the *British Medical Journal* for 1895, p. 353. The subject was Pelvic Peritonitis in the Female, and the Pathological Importance of the Fallopian Tubes in connection therewith. The address remains as a landmark in our knowledge of the pathology of salpingitis; it led to the general appreciation by British gynaecologists of the true pathology of perimetritis, as well as to advances in abdominal surgery in the treatment of these cases.

In 1900 an address was given at Ipswich, where I had the honor to be President of the Obstetric Section, by our friend, Dr. W. J. Smyly, of Dublin, whose work at the Rotunda Hospital is well known to you all, and who has since received the well-deserved honor of knighthood. His address will be found in the *British Medical Journal*, vol. ii., p. 377, of that year. The subject was Maternal Mortality in Childbed. Its chief importance as a landmark is in its indication of the simplification of antiseptic measures for the protection of parturient women, as for instance the abolition of the douche as a routine practice, and in its insistence on the substitution as far as possible of external or abdominal for internal or vaginal examinations during labor. Dr. Smyly does full justice to the pioneers in the fight with puerperal fever, but, like Dr. Kidd, and indeed other writers until quite recently, he does not mention the astounding evidence collected by Oliver Wendell Holmes—whose essay on the contagiousness of puerperal fever was placed in my hands by a non-medical friend in my first year as a medical student, and has ever since remained in my memory. The profession is indebted to Dr. Cullingworth for having reminded them of the great service which Oliver Wendell Holmes rendered, though with so little immediate fruit.

At the meeting at Manchester in 1902, Professor Sir William Japp Sinclair discussed Carcinoma in Women, chiefly in its clinical aspects. This is reported in the *British Medical Journal*, vol. ii., p. 321, of that year. In this address he expressed his firm conviction that the secret of cancer will be discovered (if ever it is) by the study of cancer of the uterus, although his reasons for this view are not very clear. He is less pessimistic with regard to the results

of vaginal hysterectomy than many operators, and was not at that time in favor of abdominal hysterectomy in these cases.

Such an address as I am requested to give on this occasion should, if possible, deal with some point of general importance and interest, rather than of personal investigation or experience, and I can imagine none at the present time so important to the present and future members of the Association as the efforts which are being made to improve the teaching and training of our medical students in practical obstetrics. The faults of our methods of teaching are obvious to every thoughtful person. The difficulty in adequately removing the deficiencies is undoubtedly very great.

May we first consider some of the most obvious imperfections? These are for the most part due to the difficulty of providing practical clinical teaching. There is no large maternity hospital in London capable of accommodating the students of the various medical schools, for the four lying-in hospitals are primarily charities for the relief of poor women, and training schools for monthly nurses and midwives.

Queen Charlotte's is the only lying-in hospital which admits medical students or qualified practitioners to its practice. The students, however, who take the month's course obtain clinical teaching and experience of a kind not to be easily obtained elsewhere, but unless the hospital is prepared to give up its principal work—the training of midwives and monthly nurses—in favor of the medical students, its 70 beds, accommodating 1,600 in-patients in the year, can only provide the necessary experience for a small number of the students of London. At the present time the practice is attended chiefly by qualified men, who, having found out their lack of experience, are glad to make use of the opportunities for instruction to be obtained there.

The other three lying-in hospitals provide between them 100 beds, but they do not at present admit medical students. So far as teaching is concerned their work is limited to the training of midwives and monthly nurses. The number of women from all parts of the country seeking to be trained as midwives is continually increasing, and to meet their requirements the capacity of these lying-in hospitals is fully taxed.

All the medical schools and lying-in hospitals have an extern maternity department, and in this department the students, under more or less organized supervision, attend poor women in their own homes. Even in the best organized of these maternities the supervision and instruction of the students are very inadequate, for the resident medical officer in charge of them is without that constant guidance and close personal contact with his chief which fall to his lot when working in the wards of a hospital. It is impossible for it to be otherwise, and it speaks well for the general standard of practical common sense that so few calamities occur.

When attended by students who have had the necessary preliminary clinical teaching, these extern maternities provide the most important and valuable training that any medical student can obtain, for, as in private practice, he is then placed almost entirely on his own resources. At any time he may have to deal with one of the sudden emergencies of midwifery, and so he begins to acquire that feeling of personal responsibility for the direction and management of the case which it is so difficult to arouse in the student while at work within the hospital, where every important detail is supervised by the responsible officers. Thus invaluable training is at hand for every student in the maternity districts, and their responsibilities in degree and in value are not exceeded by those of any house-surgeon or house-physician, offices which can only be held by a small minority of the best students.

Another fact which has delayed the provision of adequate teaching in obstetrics, not only in England, but probably in other countries, is the old ingrained idea that the process of labor is a simple function of Nature, requiring for the most part a competent nurse only, and that the practitioners of obstetrics, although recognized in theory as of equal standing, are to be looked down upon in comparison with their colleagues in the other great branches of medicine and surgery. As the result of this, both in teaching and in examinations, the study of obstetrics has been relegated to a position totally unworthy of its immense importance to the practitioner and to the national welfare.

As Dr. Dakin pointed out in his excellent inaugural address before the Obstetrical Society of London last year, if only the scourge of puerperal septicæmia can be removed childbed will be robbed of one of its principal terrors, and this long-desired consummation will be nearer its accomplishment when our students are taught practically in the lying-in wards the application to midwifery of the general principles of antiseptis.

As shown in the report of a Committee of the General Medical Council, just published, it is still common in many places for students to be permitted or even encouraged to attend their maternity cases before they have had any adequate instruction in those general principles of medicine and surgery upon which the whole practice of obstetrics is based.

Another defect in the teaching is due to the fact that the lecturers frequently have had little experience in the practice of obstetrics. It is considered essential for the lecturer on medicine, surgery, or, indeed, any other special subject, to be a man of wide clinical experience, and to be in charge of wards devoted to the care of patients suffering from those particular diseases upon which it is his duty to lecture.

In obstetrics it is otherwise; the lecturer presides over no obstetric clinic and has often had but little experience. He is an

obstetrician in name, not in practice. He probably does not attend twenty cases in a year. His obstetric practice is limited to the few special cases to which he may be called in consultation, and his teaching is necessarily of the book, not controlled by that wide personal experience only to be acquired by the constant observation of large numbers of cases such as falls to the surgeon, the physician, or to himself as a gynaecologist in the course of their daily work. They, however, aim at and attain a high standard of theoretical teaching, and all credit is due to the men who, under these very imperfect conditions, have done such admirable work as teachers and investigators.

In many of the provincial schools the lecturer is a successful general practitioner, to whom the fates have given a large obstetric experience, but whose scientific training for this work and whose experience as a teacher may have been quite inadequate.

It is essential to have a scheme which shall place the teaching of obstetrics upon the same basis as the teaching of medicine and surgery. To advise such a scheme is not difficult, but to render it practicable within a reasonable time must be a matter of considerable expense and difficulty.

It is in the first place essential that the clinical teaching be given in hospitals provided for the purpose, where a sufficient and continuous series of patients can be admitted, and they should have a large extern department where the advanced students can attend patients at their own homes. Living-in wards in a general hospital would be equally valuable if there were a sufficiently large number of beds to ensure a regular series of patients in sufficient numbers. A small ward with a few beds is quite inadequate for routine teaching, although of great value for the admission of special cases. A large number of cases is less of a necessity than a continuous series, and I am convinced that it is of the greatest advantage to teachers and pupils that medical students be taught their duties at the same time and place as monthly nurses and midwives. If taught separately, the average student learns little of the many things every nurse knows well, and the nurse of a few months' training thinks she knows a great deal more than the doctor, and does not realize the wide gulf that separates her knowledge and practice from that of the properly-trained doctor.

Both student and nurse will in the wards have been taught together how to carry out their respective duties in the best manner with all the appliances and assistance which can be provided there, and in passing from the wards to the out-patient department they will learn how to carry out those principles in the simplest manner, and often enough with little to assist their wits and their fingers in dealing with the lesser emergencies which they will meet with.

Every clinical teacher of obstetrics should be a practitioner of obstetrics, having charge of the obstetric wards and extern maternity department, whose office as professor or lecturer would necessarily terminate with the cessation of his clinical duties. This arrangement would usually lead to the devolution of the greater part of the obstetric teaching to the younger members of the medical staff, with great advantage to them, as well as to the students. They would have more time for visiting and clinical teaching in the labor and lying-in wards, and to devote to the pathological work of their department, which the older physician busy in practice may find it difficult to do.

Owing to the great difficulty that there is in providing the necessary funds for the maintenance and development of the existing hospitals, supported as they are by the voluntary contributions of a comparatively small proportion of the community, it seems hardly possible to expect that adequate accommodation can be provided in this manner in the near future, whether by the extension of the lying-in hospitals or provision of suitable wards in the general hospitals or by the foundation of new hospitals. All these are urgently needed, and will require the expenditure of large sums of money. When we look at the splendid provision made for patients in the great public asylums and fever hospitals we shall be pardoned if we are inclined to look forward to a time when the great hospitals of the country shall be relieved from the eternal difficulty of finding the money necessary to pay for their daily maintenance, and when we shall see them equipped in an equally suitable, though perhaps less expensive, manner, by funds provided by the State, administered by the existing Board of Managers, under the general supervision of a responsible Central Hospital Board or Commission.

The practice of obstetrics consists of the practical application of the ordinary principles of surgery and medicine to special organs and to special conditions, and yet, as stated in the report of the Midwifery training Committee of the General Medical Council, already alluded to, in twenty-three out of thirty-seven medical schools students are allowed to attend midwifery practice before they have received even an elementary training in the principles of medicine and surgery. All obstetric physicians who have to teach know well that it is impossible to instruct such students with any enthusiasm, however willing the students may be to learn.

The action of the General Medical Council in appointing this Committee is a very important step in the right direction. The recommendations are in the main excellent, and are now being considered by the various teaching bodies. They are—that every student be required to have conducted no less than 20 cases of labor, subject to the following conditions:

a. Before the student is allowed to conduct the above mentioned 20 cases of labor he should be required to have held the office of clinical medical clerk and of surgical dresser; to have attended a course of lectures in medicine, surgery, and midwifery; to have during one month given undivided attendance upon the indoor practice of a lying-in hospital or the lying-in wards of a general hospital; and to have therein attended cases of labor under the direct supervision of a medical officer of the hospital. He should further be required to produce a certificate from the authorities of the hospital showing that he is competent to undertake the conduct of ordinary cases.

b. No certificate that the student has conducted the above-mentioned 20 cases of labor should be accepted unless it is given by a member of the staff of a lying-in hospital or of the maternity charity of a general hospital.

These recommendations, when they can be rendered practicable and can be enforced, will meet some of the most important deficiencies suggested in this address. They will ensure that the student has had a considerable part of his training in medicine and surgery and elementary obstetrics before the required twenty cases of labor are commenced; and that he will have had the same practical demonstrations and clinical instruction in the wards of the lying-in hospitals or in the lying-in wards of the general hospital as he receives in his surgical and medical training.

The changes indicated in paragraph *b* may be thought to inflict some hardship upon individual students, for at the present time the requisite certificate of attendance upon twenty cases of labor may be given by any registered practitioner. But it must be remembered that under the existing regulations the certificate affords no evidence that the student has received any instruction whatever, and there is reason to believe that such indeed is sometimes the case.

While it is perfectly clear that there are many general practitioners able to give excellent instruction in some of the details of practical midwifery, it is equally certain that there are many others whose methods of practice, especially in the disregard of aseptic precautions, would make them dangerous teachers, and would lead to the continuance of methods which tend to the perpetuation of the still high mortality from puerperal fever. The difficulty of making any selection under these circumstances would be very great, and there is no satisfactory alternative but to adopt the course which is universally followed in the teaching of surgery and medicine—namely, to require that instruction be given by recognized teachers selected from the hospital staff for the purpose, and that the instruction in practical midwifery necessary for qualification be given only by recognized teachers.

The regulation at present in existence which demands that the student shall attend courses of systematic lectures is also faulty, since it involves unnecessary labor to the lecturer and makes too great a call on the time and attendance of the student. This remark, indeed, applies to almost all systematic lectures as delivered at the present time, and many of us think that the time has come when the arrangements for such lectures need thorough revision. The great extent and variety of the subjects, on the one hand, and the excellence of so many of the text-books on the other, make it desirable that the greater branches of medicine and surgery be taught in sections rather than in a continuous course of sixty or eighty lectures.

In obstetrics the usual plan is to give a course of lectures extending over three months, and delivered on four or five days in the week during the summer session; this course the student is expected to attend, but it is often quite impracticable to arrange a time for the lectures which shall permit anything like the whole number of the students to attend without interfering with their other duties, and unless (as is the case in the larger schools) a tutor is appointed to supplement these lectures by classes held at short intervals, a student may get little or none of the higher instruction which it is essential for him to receive. The lecturer on his part has year after year to spend a considerable portion of the time given to his lectures in teaching the anatomy and physiology of the female generative organs, both in the normal and gravid conditions, before he can begin teaching obstetrics proper, namely, the anatomy and physiology of labor, the management of pregnancy and labor, and the science and practice of the various complications that may arise.

It is a curious custom, but apparently a common one, for the lecturers on anatomy and physiology to omit from their systematic courses the female generative organs; hence the student learns but little of female pelvic anatomy and of such a highly-important subject as the physiology of menstruation until he attends lectures on obstetrics and gynaecology.

Before attending his cases and acquiring some degree of practical acquaintance with the process of labor the student is not in a position to appreciate or even to understand much of what he hears in a course of systematic lectures. It would be better if the instruction he received before his attendance upon labors were limited to the management of normal pregnancy, labor, and the puerperium together with such complications as are common. Instruction of this kind could well be given by the demonstrator, and would clear the ground for the lecturer on obstetrics, leaving him free to devote more time to the graver complications and more advanced work. The student also at this later stage of his

career would be in an infinitely better position to appreciate the value of this advanced teaching.

Another method of instruction, and one likely to be keenly appreciated by advanced students, is the delivery of clinical lectures upon cases recently in the wards. Hitherto, owing to the absence of lying-in wards, such lectures have seldom been delivered.

Amongst the many able and learned obstetricians in London who have from time to time endeavored to raise the standard of teaching, there is probably no one to whom we owe so much as to the late Dr. Matthews Duncan. He came to London to fill the vacant post of obstetric physician at St. Bartholomew's Hospital in October, 1877, and from the first devoted a large portion of his time and his great experience, and gradually his affection, also, to his wards and his students. A "Scotsman of the Scots," he came to London believing that there was little of value to be found South of the Tweed. He gradually transferred his devotion from Edinburgh and Aberdeen to London and St. Bartholomew's. He would go to Scotland for his holidays but came back to London for his work.

His influence at the hospital may be summed up in the statement that by his teaching and example he transformed the teaching of obstetrics and gynaecology from an almost insignificant position to one of the greatest importance. This change was soon felt, not only by his colleagues on the staff of St. Bartholomew's, but by the students and junior officers who flocked to his lectures and wards to learn from his example that the practice of midwifery and gynaecology could be as noble and as full of dignity as that of the highest standards of surgery and medicine. This transformation was due not only to his learning and greatness as a teacher and to his success as a leading consultant—both of which were sufficiently recognized far beyond the limits of St. Bartholomew's and even of London itself—but also to the greatness of character which made it impossible for any one to be brought in contact with him, either in hospital or palace, without feeling that the branch of the profession which he practised was as noble and dignified as that practised by the greatest physicians and surgeons. In this respect, as in the high standard of his teaching, his example diffused itself in every direction, and it is no injustice to other great teachers of his time to say that it raised the whole standard of teaching obstetrics and gynaecology throughout London.

It is difficult to say whether he excelled most in his systematic or clinical lectures. Students who regularly attended his systematic lectures received a course of instruction which, by its completeness, rarely left any matter of importance—however recent a contribution or emanating from whatever country—lacking in

their knowledge of the subject. Illumined with the criticism of his clear, highly-trained, logical mind, they were enabled to discriminate what was of permanent value and what they might expect to lay aside with fuller knowledge.

His clinical lectures were models of what such lectures should be. No student could help keeping his attention fixed on the subject. No mass of detail was allowed to obscure the clearness of the main object of the lecture, so that every one carried away some important principle clearly impressed on his mind, while to the more advanced student in gynaecology the facts grouped round the main thesis (the importance of which was not always perceptible to the elementary student) afforded him further instruction, the value of which rose in proportion to his knowledge of the subject and his experience as a practitioner.

The influence of such a man, who combined the highest personal qualities with knowledge, experience and clear judgement, not only in the ward and class room but in every relation of life, raised the standard of the science and practice of obstetrics and gynaecology to a position which, at least in London, they had never before attained.

Proceedings of Societies.

The British Medical Association, Toronto Meeting.*

WE regret that it will be out of our power to report the recent meeting of the British Medical Association as we would like. The meeting was so splendid a success and the amount of ground covered so great that it would be well nigh impossible to do justice to the occasion without devoting several monthly issues to a proper report of the transactions. We have therefore decided to content ourselves with an abstract of the proceedings confined to a few pages, and can promise our readers that from issue to issue during the autumn and winter we will reproduce for them the different addresses and papers, regarding which we have made special arrangements with Dr. Dawson Williams, the editor of the *British Medical Journal*. In this number, we print the addresses in Medicine and Obstetrics, and next month we hope to give our subscribers the addresses by the President, Prof. R. A. Reeve, and possibly the address on Surgery, by Sir Victor Horsley.

The meeting opened under the most favorable auspices, on Tuesday, August 21st, when a distinguished audience gathered in Convocation Hall, at 2 p.m. and heard the valedictory address by the retiring President, Mr. Geo. Franklin, F.R.C.S., Leicester, England, and a most masterly address by the President-Elect, Prof. R. A. Reeve, of Toronto. The day, though hot, was magnificent and the Hall was crowded. The unfinished state of Convocation Hall the Committee of Arrangements succeeded in well nigh hiding by a profusion of bunting and flags draped in every direction. Never before has Queen's Park been honored by having identified with it so many luminaries in the medical world, the platform in Convocation Hall on opening day making a sight that will not soon be forgotten. Of course the acoustics of the Hall might be improved, but as to that we will not judge until the building is finished.

From the main building the procession of notables marched in academic costume to the scene of the meeting. The procession of streaming gowns and robes in many colors was a picturesque

*We beg to acknowledge the fact that in preparing this report, we have culled freely from the daily press, most frequently the *Globe*.

sight as they marched across the green lawn. The scarlet and ermine, the crimson and gold of British and Canadian universities mingled with dashing military uniforms, and with the cool linen and turbans from far India. Some of the more notable members and visitors when they reached the hall were placed in the alcove to the back of the Chairman. They marched to their seats through a brilliantly hued aisle formed by two lines of local doctors, university professors and others.

Rev. Principal MacLaren, Knox College, opened the proceedings with a devout supplication for the Divine blessing, and gave thanks for all the progress made in the study of human nature and the ills which afflict it. He prayed that a blessing might rest upon the association in the work which it is permitted to do for the advancement of knowledge and the welfare of humanity.

The valedictory address of the retiring President, Dr. C. G. Franklin, of Leicester, England, was brief and to the point. He expressed pleasure at the privilege of being in the beautiful city of Toronto. They had a great deal of work to do, and few people knew how extensive was the labor bestowed on the association by members of the Council, who were busy practitioners. It was expected that during the present year the matter of the royal charter would be satisfactorily settled. He greatly regretted the absence of Dr. Langley Browne, Chairman of Council, whose work they all appreciated.

They found themselves in the most beautiful city of Toronto after a delightful voyage, and in a most delightful and lovely country, rather warm—(laughter)—but with the kindest hospitality showered upon them. Dr. Franklin closed by introducing the new President, Dr. R. A. Reeve, whose attainments and conspicuous abilities made it certain that the honor of the association would be upheld and its dignity increased by the accession of Prof. Reeve, of Toronto University.

Dr. Reeve was greeted with loud applause as he took the chair.

Dr. F. N. G. Starr, to whom the greatest possible credit is due for his untiring and unselfish work of many months to make the meeting a success, then presented the newly-installed President with the badge of office. He said: "When the British Medical Association had reached the age of sixty-five years it seemed good that some Canadian blood should be introduced into its internal economy, and our esteemed friend, Dr. Roddick, was elected to the high office of President. The effect was so startling that again, but nine years after, the land of the maple is selected as a place of meeting, and to the elevated post of President there has been elected one whom all Canadians respect and admire, and one whom to know is to love—our own Dr. Reeve. (Applause.) Those of us living in Canada feel that an honor has been done the profession here in your election to the President's chair, and those of us who know

you best realize that the association will be benefited by the contact. I have the honor, sir, to present to you the badge of office, a locket bearing the "arms" of the city of Toronto and of the university. Inside the locket I have taken the liberty of placing the first photograph, taken from things as they are, of your very own child, Convocation Hall." (Renewed applause.)

After Dr. Franklin had, on motion of Dr. John Stewart, of Halifax, and Sir Thomas Barlow, of London, been made a Vice-President of the association for life for his distinguished services to the association, there was a reception to delegates from colonial branches and to distinguished visitors. This was an honor which befell many of the most noted visitors to the city who are now attending the meeting. Those whom Dr. Starr called to the front to meet the new President were as follows:

Vice-Presidents—Dr. Henry Barnes, President at Carlisle, 1896; Dr. T. G. Roddick, President at Montreal, 1897; Dr. T. D. Griffith, President at Swansea, 1903.

Representatives from the Council of the Association—Dr. D. Goyden, Bradford; Dr. J. Groves, Carisbrooke; Dr. James Hamilton, Glasgow; Dr. T. A. Helme, Manchester; Sir Victor Horsley, F.R.S., London; Dr. J. A. Macdonald, Taunton; Dr. C. G. D. Mosier, London; Dr. C. R. Straton, F.R.C.S., Salisbury; Dr. J. Lynn Thomas, Cardiff; Dr. W. J. Tyson, Folkestone; Dr. Norman Walker, Edinburgh; Dr. Sinclair White, F.R.C.S., Sheffield; Dr. D. J. Williams, Llanelly.

Delegates from Representative Meetings—Dr. William Ewart, London; Sir Victor Horsley, London; Dr. S. Boyd Joll, London; Dr. R. L. Langdon Down, London; Dr. J. A. Macdonald, Taunton; Dr. C. R. Straton, Salisbury; Dr. D. J. Williams, Llanelly.

Delegates from Branches of B. M. A.—Leicester—Dr. Thos. Donnelly, Dublin; Dr. O. C. J. Delahoyde, Dublin. Metropolitan—Dr. F. J. Smith, London. Midland—Dr. C. J. Bond, Leicester; Dr. Ashley V. Clarke, Leicester. Edinburgh—Dr. Logan Turner, Edinburgh.

Delegates from Universities and Colleges—Glasgow—Sir Hector Clare Cameron, Prof. John Glaister. Sheffield—Dr. Sinclair White. King's College—Prof. Halliburton, Dr. G. F. Still. St. Andrew's—Dr. Dow, Royal College of Physicians, Edinburgh—Dr. G. A. Gibson. University of Liverpool—Sir James Barr, Prof. Sherrington. Cambridge University—Prof. Clifford Allbutt, Dr. Donald MacAlister. University of Durham College of Medicine—G. Grey Turner, F.R.C.S. London University—Dr. Rose Bradford. Bristol Medico-Chirurgical Society—Dr. Watson Williams. Medical Officers of Health Societies—Dr. Samuel Brown, Warwick.

American Delegates—President American Medical Associa-

tion, Dr. W. J. Mayo. American Medical Psychological Association—Dr. Geo. Ross, Richmond, Va.

American Medical Association—Dr. A. E. Macdonald, New York; Dr. C. W. McCaskey and Dr. K. K. Wheelack, Fort Wayne, Ind. Department of Public Health and Marine Service—Dr. R. Woodward.

Delegates from Colonial Branches—Bermuda—Lieut.-Col. Rainsford, Dr. Eldon Harvey. Halifax—Dr. John Stewart, Dr. Geo. M. Campbell. Griqualand West—Dr. Jane Ruthven, Johannesburg. Melbourne—A. Grant, M.B., C.M., Melbourne, Australia. Montreal—Dr. T. G. Roddick. New Zealand—Dr. Davis. South Australia—Dr. C. T. Drummond. Morier. South India and Madras—Dr. C. B. Rama, Rao, Madras; Dr. Barabi, Bombay. Saskatchewan—Dr. Low, Dr. McLeod, Dr. Thomson.

The following visitors from the continent of Europe were also received: Prof. Aschoff, Freiburg, Germany; Dr. Delezenne, Paris; Prof. Delsaux, Brussels; Dr. Lapieque, Paris; Dr. Nieloux, Paris; Dr. Nicolle, Paris; Prof. Justice Gaule, Zurich.

Mayor Coatsworth, in happy phrase, extended the hearty welcome of the citizens and Corporate Council of the Queen City of the West to the members of the association. They were delighted to have their visitors come, and would endeavor to make their visit a pleasant one. The citizens of Toronto appreciated the visit of so distinguished a body as the British Medical Association, and sincerely trusted that the mingling together in Toronto of members of the medical profession from all parts of the globe would result in great good for the profession itself and to humanity as well. The people were much indebted to the medical profession, than which no class of persons came nearer to the daily life of the people.

When he looked around upon the medical profession of the city of Toronto—and he accepted that as representative of the profession throughout the English-speaking world, and probably the whole world—it was often a matter of great gratification to him to observe the spirit of self-sacrifice for the benefit of the community which they displayed. He had seen in many cases the most painstaking, conscientious work done by members of the profession where there was very little or no expectation of fee or reward. In conclusion the Mayor congratulated Dr. Reeve, whose high standing in the profession was recognized, upon his election, and expressed the hope that the success of his administration of the affairs of the association would justify the selection they had made. (Applause.)

Professor Irvin H. Cameron, Chairman of the Reception Committee, said it was rather the duty of that Committee to let

deeds speak. He joined in the welcome to the distinguished visitors.

Dr. Alex. McPhedran, President of the Canadian Medical Association, extended a welcome to the delegates to all Canada. He gave them the courtesies of Canada, and hoped they would become citizens for the time being. The Mayor had asked him if there would be any great pronouncement that day. He had to say there would not be. Science advanced as the tree grew—almost imperceptibly. However, the advance of the last nine years had been very great, and he believed the next nine or ten years would bring very much greater advances still.

Dr. George A. Bingham, President of the Ontario Medical Association, also extended a welcome. The meeting of the association on this side of the water would be an inspiration to the rank and file of their beloved profession in Canada, and would in that way add to the sum total of human happiness, and possibly diminish the sum total of human misery. (Applause.)

On motion of Surgeon-Major Grasett, of Toronto, and Dr. J. A. Macdonald, of Taunton, England, Sir Victor Horsley was made a Vice-President for life for his very distinguished service to the association. Dr. Grasett said that through the length and breadth of Canada there was no name that stood for surgery better known to everyone than the name of Sir Victor Horsley.

Sir Victor Horsley in reply said, in part: "Here in this garden city one feels an especial joy in also realizing that the institution which has thus been made representative should exemplify at the same time its Imperial character. We in the old country hope to see the association embrace within its membership every member of the profession. (Applause.) And we cannot do that in its entirety unless that also means that we have the reciprocal assistance of every member in the profession throughout the whole Empire. And, therefore, on this occasion this afternoon, I hope that at any rate an opportunity has been accorded to us of raising this subject before us, so that we can go away from this great, this most enjoyable meeting, feeling that we are on the threshold of a new British Medical Association, which shall promote the interests of the medical profession throughout the whole Empire, and at the same time carry on its beneficent work for furthering the interests of humanity." (Applause.)

The President's inaugural address, which followed, was acknowledged by all who were privileged to hear it to be an exceptionally able deliverance, which compared most favorably with the many excellent addresses which have preceded it. The President, after fittingly expressing his thanks for the honor conferred upon him, modestly disclaimed the thought either in dreams by day or visions of the night that it would ever come to him. He

could not, however, but feel that the success of the Montreal meeting was warrant for this venture, but frankly avowed that any credit for such success as may attend the second visit of the British Medical Association to Canada—and the prospects were bright—must rest largely upon those who have freely given most valuable help in various ways. It had been, indeed, a labor of love to bring from their posts of duty and busy round in the old home land the select and the elect of the profession. He greeted them not only for their own sakes as men whose names were already household words, or doubtless soon would be, but as worthy sons of worthy sires. For if Bacon, Shakespeare, Newton, Faraday, Kelvin, Clerk, Maxwell, J. J. Thomson and other lights of literature, science and philosophy in the British firmament, were blotted out there would only be a partial eclipse, for would not Hunter, Harvey, Sydenham, Jenner, Simpson and Lister present a resplendent galaxy?

The gathering was in a sense a cosmopolitan one. International comity had always prevailed in the profession: disease knows no distinction of country or race, and is the common lot of humanity. In the face of an ubiquitous foe it was natural that mankind should be as a unit in defence, and that the confraternity of the healing art should be undivided. The recognition of English talent and experience on the part of the late Emperor of Germany, and by the British Sovereign in the case of that master of the science and art of bacteriology, Koch, and the action of the United States in calling to its counsels British experts in tropical medicine upon the threatened invasion of yellow fever, were graceful and forcible proofs in point. And they were glad in obedience to the unwritten code and by means of this gathering to cement the tie that already binds the great Anglo-Saxon people and those of the lands of professional culture and erudition, France and Germany.

The association, which had met for the second time in its history outside of Great Britain and Ireland, was founded in 1832 in Worcester, England, and had a membership of 140. It was reorganized in 1856, and took its present name. It now has a membership of 20,000, grouped in many divisions and branches in the old country, and in various parts of Greater Britain. There were present an honored member from Egypt, and one from New Zealand.

While time did not permit to trace the growth of the organization, the President called attention to one incident of the first meeting which explained much of the valuable work done in years which have intervened. Steps were taken to secure special studies on anatomy and the chemistry of the animal fluids, and the researches on those subjects reported at the second meeting were

the first of a long series made under the auspices of the association, which has so far given of its funds about \$70,000 to meet in part the expense involved. This feature of the association's work formed a bright chapter in her history, and was in marked contrast to the apathy and lack of support of the Government, whose attitude in this regard had often to so many seemed unintelligible. Nothing seems more certain than that money spent in such a cause yields a thousand fold return.

The President reviewed the progress made in medicine during the last decade. Many years were surely compressed into the decennium in which Lister and Pasteur, Koch, Mechnikoff and Behring, with genius and untiring energy in quest of truth solved their mighty problems and gave the world such talismanic words as antiseptis, aseptis, immunity and serum therapy. The work of these men proved not only a vast boon to man and beast, but a grand object lesson to mankind, and recent years had seen the result in princely gifts in the interests of science and humanity. There was much, however, yet to be done ere the millennium comes. True, nursing has become a fine art, diphtheria has been largely robbed of its terrors, and, though rampant, is curable; the mortality of typhoid has been reduced one-half, but the fatality of cancer has steadily increased; the white plague stalks through the land, and the death rate of infants, owing mostly to intestinal troubles, is still very high, but not on the increase. One almost felt as if the hands of the clock had gone back on the dial of the world's progress when one recalled that at Jenner's centenary the city where his method of vaccination had come into vogue was in the throes of an epidemic of smallpox, due to the ignoring of his great discovery. There is yet ample scope for State medicine to ply its persuasive powers until men think aright about matters which affect the well-being of the community, and the presumed welfare of the individual shall not stand against the weal of the masses.

In the matter of compulsory vaccination a true paternalism of the State with the active support of the profession should override so-called conscientious scruples. Done under the rules of asepsis, as it always should be, and with the use of pure vaccine, now always to be had, the risk is practically nil.

The work of the decade had given the profession itself some new ideas in regard to the mechanical and chemical processes of digestion. That the first part of the stomach is a mere receptacle, and the second part a kind of "mill," which is perforce the more common seat of mischief requiring surgical treatment, had been established. Time has served to emphasize the value of thorough mastication, and the necessity of the avoidance of mental states which would divert nervous energy and interfere with the

digestion by cutting off the appetite juices had been shown by Pawlow's studies.

A notable work on "Physiological Economy in Nutrition," by Chittenden, of Yale, embodied the basis of a change of faith and a new practice. Too much food not only means loss of vitality in the disposal of it, but entails a positive risk from the resulting poisons (toxins) ere these products of metabolism are finally got rid of. Chittenden had shown that one-half or one-third of the nitrogenous (protein) food ordinarily taken suffices, and with a minimal tax upon liver, kidneys and digestive tract. Much of the joy of living depends upon a good digestion, said the President, amid applause. He emphasized the importance of a fuller knowledge of dietary standards, and concluded that, as to uric acid, it would be safe to say there would be less formed and requiring excretion the less proteid or nitrogenous food taken. Though he could not deny that rheumatism, at least the acute, was due to the agency of a special microbe with its specific toxin, doubtless the congenial soil for its operation may be greatly reduced as indicated. In this day there should be some boon for the legions of rheumatic subjects which they are denied. Not so deadly as the white plague, rheumatism causes much more pain and misery in the world than tuberculosis.

The question of nutrition concerns all mankind, and the right food for infants and adolescents was of more moment than for adults, and the wise physician will not forget that the young are apt to err in ignorance or to be sinned against, while older folk are wont to transgress in spite of light. It will be well when the teachings of the laboratory and college halls have become common property. There will be then more plain living and high thinking, and less repining on the part of the masses on account of their enforced moderation. It is the prerogative of the profession to show that nature's laws rightly interpreted and adopted are the only safe guide to good living, not men's whims, fads and fickle appetites or ingrained habits, and that much of the money spent for patent foods and patent medicines (so-called), are, as a rule, mis-spent. Thirty-five per cent. of all deaths are under five years, and a large proportion of infants and other very young folk who die would be saved if properly fed. Proper food and hygiene are the hope of future generations.

The importance of furnishing clean, pure milk to communities is one of the greatest boons to humanity and the good service of the pediatric societies in the United States was recognized. The warning of Sir Thomas Barlow in 1894 was quoted that "condensed milk or even sterilized milk is not an efficient substitute for the natural food of the infant, and that infantile scurvy may be caused by their sole use." And animals have been found to

rapidly die when fed on a mixture of all the supposed constituents of milk. The marked increase in the debt which medicine owes to physiology and physiological chemistry was acknowledged, and a graceful tribute paid to Sir Victor Horsley for his researches in physiology. So-called empiricism has had its day, and *pari passu* with the growth of more exact knowledge of the causes and nature of disease has come more faith in the native powers of the human body, and in the value of the aid which can be given by nursing, dieting, etc.

That pneumonia is always a septicoemia and its specific microbe always present in the blood gives the clue to its prevalence and high mortality—greater, indeed, than of yore, doubtless owing to the large and increasing percentage of dwellers in cities and towns. A protective and curative serum or “vaccine,” as in the case of diphtheria or typhoid, is the hoped-for remedy. The discovery of a specific microbe in cerebro-spinal meningitis, its mode of entrance by the nose and throat, and of the trial of repeated lumbar punctures and injections of diphtheria anti-toxin with uncertain results, are features of interest in this serious malady, which, by the way, is not as fatal as some suppose. The discoveries that typhoid and malaria infection were carried by flies were reviewed, and tributes paid to Lazear, of the American Commission, and Myers, of Liverpool, who gave their lives. That their labors had not been in vain was shown by the success with which the recent plague was stamped out, and Havana and other pest centres had secured exemption.

Preventive medicine as a result of the decade's work alone gives sure promise of saving more lives and sparing more misery than could universal peace.

Touching upon surgery, President Reeve commented upon the fact that whereas a few years since at the Washington Congress the physicians took the aggressive in regard to appendicitis, while the surgeons rather favored caution, now the attitude was reversed. More than ever possibly surgeons must be much more than mere surgeons; they must study carefully the processes of disease and the effects of injuries; they are studying the blood and counting the white blood corpuscles to get the clue they require. Surgery is now invading, if possible, more vital spots, such as the heart, and indeed their respected friend, Sir Victor Horsley, gets down very close to the medulla oblongata. The X-ray is now giving the surgeon and the pathologist better data than ten years ago.

The State Medicine Section met in the Science Building. Dr. Frederick Montizambert, President, in opening the meeting confined his remarks to extending a cordial welcome to the gentlemen present. The subject dealt with was “Tuberculosis,” and

a number of intensely interesting papers were read. The discussion which followed was of absorbing interest.

In the therapeutic section the President, Dr. Donald MacAlister, of Cambridge, delivered an important address, in which he advocated the preparation and adoption of an Imperial pharmacopoeia. He said they were far from realizing an international pharmacopoeia, and in the meantime one for the Empire would be an important step, and could readily be accomplished.

Another suggestion by Dr. MacAlister was for medical reciprocity, whereby physicians in Canada could practice in the United Kingdom and vice versa. The speaker strongly favored a medical federation of the Empire.

"Every year Canadian graduates come over to study and to obtain diplomas at home," he added. "When I observe your splendidly-equipped medical schools and hospitals, I cannot help wishing that a strong reverse current might be set up, and that our own students and graduates might acquire the habit of crossing the Atlantic to complete or to supplement their medical education in Canada. That mutual recognition of professional qualifications would further and foster this tendency, I am convinced; and I am not less sure that such educational interchanges would exert a powerful influence for good, not only upon us, but upon you."

Dr. Samuel Dixon, Commissioner of Health, Harrisburg, Pa., had the honor of presenting the first paper to the State Medicine Section. His topic was "The Prevention of Tuberculosis." He dealt with the progress made in the treatment of tuberculosis since the association last met in Canada. Among other results determined by experiments was that the tubercular bacilli in animals are much more virulent than those of human origin. So far, however, science had not been able to discover any means of rendering animals immune permanently against the tuberculine poison. In summing up the situation Dr. Dixon asserted that as a result of fifteen years' research it had been demonstrated that a degree of immunity can be produced in the lower animals. They had not been wholly successful, but a higher degree of immunity had been attained. The measure of success achieved was a stimulus to renewed energy and search for the active principle which can be used without danger upon the human anatomy to render it immune.

Dr. Jas. Roberts, Medical Health Officer, Hamilton, Ont., dealt with the same question, more especially from the Canadian standpoint. He based his paper upon the premises that consumption can be prevented, that it can be eradicated, and that it can be cured. He estimated the number of sufferers in Canada at 40,000, and the loss sustained by the country annually from the ravages of the disease at \$8,000,000. He commended the pro-

vision made by the Provincial Government of Ontario for a grant of 40 per cent. of the cost of municipal sanitaria for consumptives, and remarked with some degree of pride that Hamilton was the only municipality that so far had taken advantage of the generous offer. To Nova Scotia was given the credit of being the first Province in the Dominion to erect a Government sanitarium for consumptives. The suggestion was offered that the appointment of a Minister of Health was advisable in each Province. Touching upon the public fear which has been aroused regarding the impossibility of checking consumption, Dr. Roberts characterized it as one of the most ludicrous and pitiable "hories" which ever alarmed the public. The advantage of the hospital system of treatment, and the fact that the prevention of the disease was bound up in the solution of the great social and economic problems which are engaging the attention of the various nations, were emphasized by Dr. Roberts.

A cognate branch of the subject was dealt with by Dr. A. W. Gilchrist, of Nice, France, who read an able technical paper on "Some General Analogies Between Tuberculosis and Influenza."

Dr. Probst, Secretary State Board of Health, Ohio, submitted a paper on "Some Doubtful Phases of the Tuberculosis Question," in which he made special reference to the necessity of educating the public upon this important subject. Millions of dollars had, he pointed out, been spent in the slaughter of cattle for the purpose of preventing the spread of tuberculosis to humanity. Would not that money have been better spent in some other manner? Dr. Probst thought it would. He recognized the danger from eating meat or drinking milk from a tuberculous animal, and regarded the disclosures in the Chicago packing house scandals as evidence of necessity for greater caution and inspection of the food supply.

Touching upon the influence of alcohol, Dr. Probst questioned whether it was productive of tuberculosis, and pointed out that there was a great difference between alcohol and alcoholism. The results of the latter differed according to the grade of society in which it prevailed. With regard to the treatment of patients the principle was conceded that patients could not have too much pure air, and that the air inside a room was never as pure as that outside. The majority of patients might, if properly protected, be permitted to sleep out of doors under all temperatures. Conditions and sanitaria should be constructed with that idea; at the same time it was not advisable to make such treatment obligatory.

A practical paper upon "Influence of Domestic Methods and Household Dust on Tuberculosis," by Dr. Geo. Homan, President of St. Louis Medical Association, was read by the Secretary, in the absence of the author. Dr. Homan summarized his views upon the subject in the following suggested resolutions:

That efforts toward the eradication of human tuberculosis will fail which do not take full account of household dust as a factor in the dissemination of that disease.

That scientific tests have shown that the seeds of pulmonary tuberculosis harbored within doors in the dried state are capable of retaining their effective vitality for prolonged periods of time.

That any method of procedure employed in inhabited buildings which causes dust to be disseminated must be considered as tending to spread the seeds of consumption.

That hotels, clubs, theatres, office buildings, schools, churches, and business establishments generally should be required by law to introduce and operate dustless methods of cleaning—this part of their mechanical equipment being held to be as necessary as provision similarly made for warming, ventilation, and for fire protection and fire escape; and the employment of dustless methods in private residences is urged as being equally imperative for the control and suppression of all forms of tuberculosis disease.

In the discussion which followed, Dr. Probst urged the necessity of educating the public as one of the most effective methods of combating the spread of tuberculosis. He suggested an addition to every house by which the inmates might sleep in the open air for a certain period of the year; also that architects should pay greater attention to ventilation in designing houses.

Dr. Stevens gave an interesting statement of the campaign carried on successfully in the borough of Renfrew, Scotland, to educate the people in preventive hygiene.

Prof. Glaister, of Glasgow University, while concurring in the value of fresh air treatment for tuberculosis, suggested that climatic conditions must necessarily govern the application of such treatment. He laid down the axiom that whatever conditions are preventive were also curative, and emphasized the opinion that dry dusting of furniture was a delusion. In connection with the dust of the streets, Prof. Glaister said he had noticed that in some cities in Canada the streets were either all dust or pools of water. People when retiring at night left their windows open, and if a wind rose during the night the dust was blown into the room and inhaled by them. That dust carried the germ from the sputum and therein lay the danger. A large amount of tuberculosis was produced by conditions which were preventive. Another matter which required attention was the smoke nuisance, which he regretted to observe was prevalent in Canada, and which it was as necessary to get rid of as of dust, in order to give people's lungs an opportunity to resist tuberculosis.

At the request of the President, Dr. J. Groves, of Carisbrooke, Isle of Wight, spoke of the importance of day camps, one of the most useful and practical preventive means known. Every person

suffering from consumption should be got under education, not necessarily in a sanitarium, but under medical supervision in a tent, with nurses in attendance conversant with the life that ought to be lived by consumptives. When his education in this respect was completed he could be permitted to return to his home and become a missionary in the work of education.

Dr. Groves, who is a recognized authority on the subject, having been himself a sufferer for many years, was listened to with close attention as he told of his first trip to Canada when a young man in 1868 to seek relief from tuberculosis. He advocated the establishment of small camps outside each town for the educative work rather than the erection of large sanatoria at central points as a more effective means of carrying on the educative campaign.

Dr. A. H. Freeland Barbour, of Edinburgh, presided in the section of obstetrics and gynaecology, and advocated the importance of that branch for the study of the general practitioner.

Sir Thomas Barlow delivered a lengthy address in opening the medicine section, and was followed by Dr. McPhedran, of Toronto, on "Blood Pressure in Relation to Disease."

The members who advocated the pediatrics section heard an important address on pneumonia in children, by Prof. Henry Ashby, of Manchester, Eng. Prof. Ashby is a famous specialist in children's diseases.

Professor W. Haliburton, of London, presided in the physiological section, and spoke on proteid nomenclature. Dr. J. George Adami, of Montreal, then read a paper on "The Dominance of the Nucleus," and Professor A. B. MacCallum, of Toronto, followed in the discussion.

WEDNESDAY'S SESSION.

The proceedings of the second day were very important. The amount of work laid out for the members was certainly enough to keep them busy all forenoon. We can but touch upon the different sections, trusting that our friends will forgive us if we unintentionally pass over some part of the meeting in which they happened to be most keenly interested.

The central event of the day was the luncheon given by the Ontario Branch of the Dominion Alliance. Sir Victor Horsley, of London, and Prof. G. Sims Woodhead, of Cambridge, gave surprising information as to the decrease in the use of alcohol in medicine and surgery, and expressed the opinion that its value as a drug was practically nil. The evils of overeating were emphasized in the medicine section, the necessity for pure water and milk in the State medicine section, and the fact that cancer was not increasing was brought out before the pathologists.

The State medicine section devoted Wednesday's session to the

consideration of the important question of the control of the water and milk supplies. The number of the papers and the intensely interesting discussion upon the water supply question practically excluded the equally important question of milk supply from consideration. As it was inconvenient to postpone entirely the consideration of the question until to-day, several papers on the subject were read before adjournment.

The paper of Dr. H. W. Hill, Assistant Director of Health Laboratories, Minneapolis, Minn., on water supplies from a sanitary standpoint, was read by Dr. Westbrook, Director of Health Laboratories, Minneapolis. It dealt with the essentials of a public water supply.

Dr. W. J. Robinson, Medical Health Officer, Guelph, in a paper which was listened to with keen interest, dealt with the question of "Artificial Purification of Water Supplies," in which the merits of sand and artificial filters of various types were discussed with marked ability. The principles of chemical and mechanical filters were also discussed.

Dr. H. D. Holton, Secretary Vermont State Board of Health, in his paper, dealt with "Water Supplies." He deprecated very strongly the practice by individuals or municipalities of discharging sewage into the rivers, streams, or other bodies of water. Filtration of the water supply was a necessary precaution, and experience had shown its practicability. Filtration of sewage, by which an effluent free from odor, and comparatively harmless, would be discharged, was also a necessary precaution. He had noticed editorials in a newspaper since coming to Canada upon the subject of sewage disposal which could only have been written in ignorance of the danger arising from the pollution of a water supply by sewage. A great deal of the intestinal and kidney troubles from which people suffered were attributed to the pollution of the water supply by sewage.

Prof. Glaister, Glasgow University, complimented the authors of the papers for the ability and care with which they had prepared them. A water supply pure in quality and abundant in quantity was the best line of defence against those diseases which formerly swept over many communities. He emphasized the importance of proper control of the area from which the water supply is obtained. As a result of the care with which this control has been exercised, there was now no such thing known as a water epidemic anywhere in Scotland.

Dr. T. A. Starkey, Professor of Hygiene, McGill University, discussed with authority the question of pollution of water supplies by sewage, and gave a very interesting resume of his observations for a series of years of the gradual deterioration of the water in the Ottawa and St. Lawrence Rivers. He disapproved of the

popular idea that large rivers purified themselves of pollution by sewage completely. From a bacteriological point of view the so-called purification was merely dilution; the pollution was not got rid of. Speaking of observations of the St. Lawrence River, there had been, he said, a gradual increase from an average of 90 colonies of bacteria in 1903 to 168 so far this year. These figures were striking, showing that whether from sewage or surface drainage the waters of the river were becoming more polluted each year. The progress of pollution of the Ottawa River was more rapid still, the average number of colonies of bacteria having risen in the same period from 110 to 300, and on some special occasions in that portion of the Ottawa River back of Montreal, from which Westmount obtains its water supply, he had found from 1,000 to 1,500 colonies, and the average for the whole year was 600. A peculiar feature of some of the conditions he had observed was that according to existing standards a chemist would have been forced to pass this water as first-class.

Practically, under modern conditions, as Prof. Glaister had said, it was impossible to obtain a pure supply of water for potable purposes without filtration. Without desiring to be an alarmist, he was forced to admit that he believed the condition of our rivers was becoming dangerous, and that the conditions which prevailed in Winnipeg would in a very short time exist in eastern cities unless radical means were adopted.

Dr. Oldright pointed out that the unnecessarily large consumption of water in some cities on the continent added greatly to the difficulty of solving the question of sewage disposal. He appealed to the members who were going to Muskoka to constitute themselves missionaries in spreading the gospel of sanitaria and hygiene among those with whom they came into contact. He referred to the persistent efforts of the Provincial Board of Health to prevent pollution of the lakes, and described a system of filter beds constructed on a new principle, at Avery, which had worked very efficiently.

Dr. P. H. Bryce, discussing the situation in Ontario, said the question to be decided in Ontario was, "Are we going to fight positively against the pollution of streams or are we going to depend upon filtration?" Personally he was opposed to pollution. The Provincial law prohibited the pollution of streams, and it had been enforced in many cases. He gave an interesting and instructive description of the methods adopted as a result of the efforts of the Provincial Board of Health for the disposal of the sewage in Muskoka. With an average summer population of 20,000 in the district, there had been during the past five years not as much typhoid fever as would be found in the ordinary rural communities.

The subject was also discussed by Dr. Nasmith, Scotland, and Dr. Groves, Carisbrooke, Isle of Wight, both of whom emphasized the importance of purification of sewage and filtration of water.

There was but a short time available before adjournment when the papers upon control of the milk supply were called for. Dr. R. Harcourt, of the Agricultural College, Guelph, read an interesting paper on control of milk supplies. He contended that it was almost impossible to find milk kept and handled under proper conditions, and the methods employed in handling and bottling it were in almost every case faulty. If a commission were appointed in this country to investigate the conditions under which the milk was handled and delivered to the consumer, the report would, Prof. Harcourt opined, be worse than that relating to the meat-packing establishments of Chicago, which caused so much surprise. There was, he said, a large and increasing demand for pure milk. The consumer had a right to demand milk which would, if kept at sixty degrees or less, keep for 24 hours, and that it be free from flavors. The advisability of establishing a standard required for milk, the price of which would depend upon the quality, was considered. The addition of preservatives of any kind was deprecated as injurious to public health, and under some circumstances deleterious to the food quality of the milk.

Prof. John Glaister, Scotland, in his paper on "Administration and Control of Milk Supplies," gave much interesting information regarding the model methods by which the purity of this important article of food could be assured to the consumer.

One of the most interesting discussions of the day was in the pathology section, where cancer was under consideration. Dr. E. F. Bashford, of London, Director of the Imperial Cancer Research Fund, in London, said cancer was the result of old age, and not infectious. He found it was not on the increase in the old country. He would not hold out any immediate hope for a cure. It only attacked people in the last third of their life, that is, after fifty.

The gist of the papers on epilepsy, in the psychology section, was that doctors should study the living body, and try to get at the cause of the poisoning which led to that disease. It was not regarded as a brain trouble. Some hope was held out by Dr. Spratling, of Sonyea, N.Y., for a cure for the disease.

In the section on dermatology, Dr. J. Nevin Hyde, of Chicago, speaking on psoriasis, popularly known as "shingles," advanced the theory that it was due to light hunger or lack of exposure of the skin to light, but Dr. Ross, of Halifax, was the only speaker to support this idea.

Sweltering heat, which made dignity and comfort impossible, failed to spoil the luncheon by the Ontario Branch of the Do-

minion Alliance, which was a notable event in the week's programme. The luncheon was attended by five hundred persons, and was held in the university gymnasium. It drew together many noted local temperance workers, as well as distinguished physicians from Britain and the United States. The declarations by leaders of medical thought that alcohol is becoming a back number in medicine and surgery were applauded by the large audience. The pleasant manner and clear-cut diction of the speakers of the day made it a pleasure to listen to their addresses. Mr. Chester D. Massey presided, and those at the head table included Sir Victor Horsley; Prof. Sims Woodhead; Dr. H. O. Marey, Boston; Prof. Murdoch Cameron, Glasgow; President R. A. Reeve, Rev. Dr. Carman, Mayor Coatsworth, Mr. Justice MacLaren, Rev. Father Minchan, Dr. J. T. Gilnour, Dr. Wm. Oldright, Dr. J. B. Willmott, Mr. James Holes, Mr. F. S. Spence, Mr. J. S. Robertson, Mr. W. H. Orr, Mr. J. W. L. Forster, Mr. W. H. Shaw, Mr. Joseph Tait, Rev. Dr. Abraham, and other prominent visitors and workers.

As President of the Ontario Branch of the Dominion Alliance, Mr. G. F. Marter introduced the Chairman, Mr. Chester D. Massey, whom he described as one of the best friends of the Alliance, and one of the best citizens of Ontario.

Mr. Massey said the meeting showed there was a strong relation between temperance and medicine. "The less alcohol is used as a beverage the more effectual it will become as a remedy," he said.

Sir Victor Horsley, Surgeon of University College, London, was flatteringly received. He said he appreciated with more than usual feeling the kind invitation to speak that afternoon, as he would be unable to speak on the subject in the therapeutics section on Friday. There were points, however, in which the medical profession in the old country was the pioneer in social reform, which he could not dwell upon in the therapeutics section, but which was a congenial subject for that occasion. They were probably well aware of the attitude of the medical profession toward alcohol on this side of the water. Only a fortnight ago the French-speaking practitioners passed a strong resolution on the subject. And the inquiries of Mr. Spence had shown that the medical profession in Canada was hostile rather than friendly towards the drug they called alcohol. (Hear, hear.) He was there to give an idea of the attitude of the medical profession in the old country. That was equivalent to saying what was the attitude of the association. Years ago the association asked the Education Department to take a more active step to promote the hygiene and temperance of the nation.

"I would like to say at once," said Sir Victor, "that the pro-

fession at home has the same hostile attitude on the whole towards alcohol that you have, and I will prove it to you, and I mean alcohol not only as a beverage, which is indulged in to too great an extent, but they have found out what alcohol's real value is as a drug, and that is, in my opinion at any rate, practically nil. (Applause.) When I was a student, alcohol was the traditional remedy in surgery for blood-poisoning and other operations, and for an infectious disease like pneumonia. What is the position now? That on all these points alcohol is being no longer used."

Sir Victor then turned to a chart which he had prepared and had hung on the wall, showing the decline in the use of alcohol and the increased use of milk in seven great London hospitals in the last 40 years. That showed what the medical profession in London, at any rate, was doing with regard to the use of alcohol as a drug. In 1862 the expenditure on milk in those hospitals was \$15,000 a year. That expenditure had been constantly rising until in 1902 it was over \$40,000. The expenditure on alcohol in the same hospitals in 1862 was \$40,000 a year, and for the next decade it remained about stationary. In 1882, when the speaker was a student, it had decreased and milk increased until both were about equal. About that time antiseptic surgery became general, and during the last twenty years alcohol had gone down until the expenditure in 1902 was only \$15,000; so that in London alcohol was not being valued as a drug as it had been forty years ago.

The same was being proved with regard to the country. The Royal Infirmary at Salisbury, 25 years ago, spent \$1,500 on alcohol, and last year only \$35. It had been a gradual evolution of action on the part of the profession in their use of alcohol as a drug.

Personally he believed that the movement really began with the surgeons. It was no credit to them, but to the great man to whom they owed everything—Lord Lister—(applause)—and was one of the innumerable benefits resulting from his discovery of the great principles of anti-septic surgery. When he was a student it was the custom to give three or four ounces of alcohol to every patient entering the theatre for an operation. The quantity had diminished, but still it was given as a custom. It was a custom they were getting rid of. Then for the post-operative condition, alcohol had practically disappeared and was being replaced by a whole armamentarium of drugs better for the purpose. Very little examination into the general practice would show the same thing. About a year ago, Dr. Hancock, a well-known practitioner, said he had not used alcohol for seven years in general practice.

"Personally," Sir Victor went on, "I believe that the medical

profession is to be the great reforming agency of every nation—(applause)—because medical men, as our President told us yesterday, are the real witnesses of social life. Three years ago the medical profession throughout the United Kingdom issued a petition to the Government asking them to introduce the compulsory teaching of domestic hygiene and temperance in the elementary schools. The letters were sent out to the profession on Friday night, and on Monday morning we had 5,000 answers, and within the next few days we had 15,000 answers from medical practitioners. So that you see the feeling in the old country that every child should be taught the elements of domestic hygiene and temperance is overwhelming strong. It has produced a very powerful effect on the Government in this particular.

"We are only too well aware that the old country is a little lagging behind the colonies in this respect, but we hope that she will gain a little fresh wind now and cut a respectable figure in the race. But, at any rate, if she is to take her proper place, and if the physical deterioration of the nation is to be arrested, and if the physical condition is to improve, it will be by the authority and by the agency of the medical profession, and, therefore, it was with the greatest pleasure in the world that I accepted the invitation to come here to-day, and it is now with heartfelt thanks to you for your attention that I resume my seat." (Loud applause.)

Before introducing the next speaker the Chairman happily referred to the lawyer as the man who sees the worst side of a man, a minister, the best side, and a doctor the real side.

Professor G. Sims Woodhead, of Cambridge University, said that a year ago he had attended a meeting of that character in Cape Town, and he could not help thinking that, wide apart as they were in the matter of miles, when it came to the great problems they had to deal with, they were all standing on very small and very common ground. (Applause.) He felt, too, that in regard to alcohol medical men must take the lead, for they knew what it was doing, and any medical man who was worth his salt was looking not merely to the immediate illness or indisposition of any of his patients, but he was looking ahead for the welfare of all. (Applause.) For that reason he was exceedingly glad that such a change had come over the medical profession as shown by Sir Victor's illuminating diagram.

Professor Woodhead referred to the uncertainty with which the British Medical Temperance Association was regarded at first, but it was now meeting with general encouragement. After close study of the question the members had reached a different conclusion than that formerly held as to the value of alcohol as a drug.

Sir Victor had spoken of the changed attitude of surgeons toward alcohol. He believed an equally strong change of opinion was taking place in connection with the medical branch, and that men who at one time looked upon it as necessary in the treatment of various diseases were now satisfied that it exercised a deleterious effect upon the resisting power of the patient. In an odd case of pneumonia it might be beneficial, but in most cases it had been found to do more harm than good.

"Men have been working away quietly in the laboratories," said Professor Woodhead, "and have been trying to arrive at the actual value of alcohol in certain of these conditions, and I may state generally that almost every experimenter who has taken up this question has come definitely to the conclusion that alcohol interferes with the production of what we call the condition of immunity: it interferes with that condition as a result of which we recover from various specific infective diseases, and if alcohol interferes with the production of that condition in animals, then we must assume that it interferes with the production of a similar condition in the human being. Therefore, I feel very strongly that until very strong evidence can be brought forward that alcohol has a definite effect in improving the condition of the patient—and we have no evidence of this at present—we ought to hold our hands as regards alcohol and use these many drugs of which Sir Victor has spoken as substitutes, at any rate in the meantime."

Professor Woodhead appealed to the younger medical men to study the question, as it was not a question of any locality, but one which involved the physical regeneration of the human race, and therefore it was one in which they might all be proud to take a part. (Applause.)

A vote of thanks to the Alliance for luncheon was carried on motion of Professor H. O. Marey, of Boston, President of the American Society for the Study and Prevention of Intebriety, and Professor Murdoch Cameron, of Glasgow University, each of whom made a happy speech, in which references were made to the growth of temperance sentiment in the past few years.

The address in medicine, one of the recognized features of every gathering of the association, was delivered in Convocation Hall Wednesday afternoon, by Sir James Barr, M.D., F.R.C.P., F.R.S.E., Dean of the Medical Faculty of Liverpool University. It was a masterly presentation of a difficult subject, and contained not a little matter controversial in its nature. At the conclusion the author was given a cordial vote of thanks, and was congratulated by such eminent men in the world of medicine as Dr. Daniel MacAlister, of Cambridge University, Chairman of the General Medical Council of Great Britain, and Sir William Broadbent, Physician to His Majesty the King, who, however, did not en-

dorse all the views expressed in the paper, and who voiced their admiration at the courage he displayed.

THURSDAY'S SESSION.

The great social feature of the gatherings of the British Medical Association is the annual dinner. On Thursday night this function, which was held in the spacious Victoria Rink, fully equalled and in some respects excelled in brilliancy and enjoyability any of the very pleasant gatherings of a similar nature which have preceded it. The building was handsomely decorated, the colors of Toronto University and the Medical College predominating. At the end of the rink the word "Welcome," surmounted by a giant maple leaf and crown illuminated by electricity formed a striking decoration. The menu was excellent, the service prompt, and the Dinner Committee, of which Dr. Grasett was Chairman, fully deserved the congratulations bestowed upon them. About five hundred members of the association attended and formed a happy and convivial gathering. The speeches, with one or two exceptions, were brief and to the point.

Dr. R. A. Reeve, President of the association, presided, and was supported on his right by His Honor the Lieutenant-Governor and Sir Wm. H. Broadbent and Professor Goldwin Smith; on the left by Sir Thomas Barlow, Mayor Coatsworth and Sir James Barr.

The first toast in all gatherings in the Dominion, "The King," was received with acclaim. "The Lieutenant-Governor of Ontario," which followed, was also received with great enthusiasm. His Honor, in reply, referred to his early connection with the medical profession, when, 50 years ago, he performed certain official duties in connection with the Royal College of Surgeons of Edinburgh, which required him to sign the diplomas of many graduates of that college. The visit of the association to Toronto would impress upon the members the fact that in this Province there was an intense feeling among the people in favor of Imperial unity. "Our hearts are one with the British Empire," said His Honor, and the gathering cheered. Continuing, His Honor said he had on his visit to Great Britain been painfully impressed with the deep apathy existing there towards Canada and Canadian affairs. He had met with ignorance wholly inexcusable, and it had given him very great pain to see the indifference with which Canada was regarded in London and elsewhere. Referring to the practice of some Imperialists who came to Canada to educate Canadians in Imperial sentiment, His Honor said he had ventured to tell these gentlemen that the campaign ought to begin in England, not here. (Applause.) Upon the question of Canada's participation in the burdens of the empire, His Honor suggested that it was forgotten by those who criticised that Canada offered to the young men and women of the

old land homes in a land possessing institutions similar to their own, among people actuated by the same principles of civil and religious liberty which prevail in the Motherland. Canada in the course of a few years will be able to supply the British Isles with the food they require, and, therefore, it was in the interests of Great Britain that the Imperial navy should keep open communications at all times.

The following telegram from Captain Trotter, A.D.C., to His Excellency the Governor-General, was read by the chairman:—

"His Excellency will be obliged if you will convey to the President and members of the British Medical Association his regret that he is unable to accept your invitation to be with them to-night, and his very sincere hope that the visit of the association to Canada may be full of pleasant memories to your distinguished guests, and fruitful of results to the people of Canada."

"The Parliament of Canada" was spoken to in an eloquent speech by Sir James Grant. Mayor Coatsworth, ex-M.P., who was also called upon, said he did not know whether he had been called upon to propose the toast as a joke or as a surgical operation. "Both," cried a wag in the audience, and the Mayor gracefully accepted the suggestion, but he also forgot to propose the toast before sitting down. The Chairman himself then gave it, amid laughter and cheers. The toast was duly honored to the strains of the Maple Leaf.

Mr. E. B. Osler, M.P., who responded, entirely concurred in the happy phrase of Sir Wilfrid Laurier, who asserted that the twentieth century was Canada's. (Applause.) He advised those visitors from the old land under forty years who proposed visiting the Pacific Province of Canada to keep their eyes open, as to them would be given that which was not often vouchsafed to men to witness within the short span of life, the making of a great nation, for within thirty or forty years the destiny of Canada would be formed one way or other. He believed that destiny for good or ill would be in close connection with the great mother land. (Cheers.)

When Dr. Goldwin Smith, who was announced by the Chairman as the son of a physician, rose to propose the toast of the British Medical Association he was accorded an ovation. In proposing the toast Dr. Smith spoke in terms of appreciation of the work of the medical profession for humanity and of the progress made in the science during his lifetime. The members of the association, he was assured, could go back to England feeling that the people of Toronto understood they had had among them worthy chiefs of a most illustrious profession, a profession that humanity had from the beginning loved and revered. Speaking of Tyndall, to whose memory he paid the loving tribute of an admiring friend, Dr. Smith said that although he insisted upon calling himself a materialist, a less material or more spiritually-minded man he had not known. Touching upon the recent reorganization of the

university, Dr. Smith assured the medical profession the Senate had done the best they could for their studies, and would, he hoped, always guard their privileges, realizing that those privileges were not the privileges of the profession alone, but the safeguard of society against empirical murder. Dr. Smith related an interesting anecdote of his interview with a famous Spiritualist, from which he came away still a skeptic, and concluded with a humorous story illustrative of the ignorance of Canada in Great Britain, to which the Lieut.-Governor had alluded.

The toast was first responded to by Sir William Broadbent, who was received with enthusiasm. He expressed the appreciation by the members of the association of the great kindness with which they had been received in Canada, and frankly admitted that the visitors deserved in some measure criticism for their ignorance of Canada. In palliation he pleaded the impossibility of visitors properly appreciating the magnitude of the Dominion and its wonderful resources. While confessing ignorance, however, they could not admit indifference—(applause)—and he assured his Canadian friends that on their return they would endeavor to enlighten their friends at home with reference to Canada. The wish had been expressed that the name British Medical Association should be changed to the Imperial Medical Association, but he thought after all they should retain the present title. And when Canada had annexed the adjacent republic, as had been suggested, they would have a greater Britain than ever, and would be still prouder of the title "British Medical Association." (Cheers.)

Dr. Macdonald, Taunton, England, who also responded, aroused enthusiasm by an appreciative reference to the prompt and generous action of Canada in sending of her best and bravest sons to stand side by side with the men of the Imperial army in defence of the Empire in South Africa.

The last toast, "Our Guests," was appropriately proposed by Sir William Hingston, the oldest member of the British Medical Association in the Dominion. It was responded to by Prof. Aschoff, Marburg, in German, and by Dr. Lapicque, Paris, in French, for the profession in their respective nationalities; by Dr. Mayo for the profession in the United States, and by Dr. Nott for the profession in England.

The luncheon by the Empire Club, at which addresses were given by several notable visitors to the medical meeting, was a pleasant variation from the routine of business. Leaving the city in the heat of midday, the guests dropped in at the beautiful club house of the Royal Canadian Yacht Club, whose spacious balconies opened wide to the winds of heaven and afforded ample shade from a burning sun. The marshy haunts of the catfish contrasted with the velvety bowling lawns of the club, and nearby was the beautiful green of Island Park. Mr. James P. Murray, President of the Empire Club, was in the chair. President R. A. Reeve, of the British Medical Association, sat on his right, the other speakers of the day being on either hand.

In proposing the loyal toast Mr. W. K. George said that as a Canadian who had visited Britain last year he could not forget the splendid, lavish and kindly hospitality with which he had been greeted. He concluded an eloquent reference to the resources of Canada with expressing the hope that the new citizens coming to this country would be properly instilled with a sentiment of loyalty to the old land.

Sir William Broadbent, whose address was the briefest of the day, said he had been astonished at the unbounded resources of Canada and at the energies of its people. They hoped and trusted that the connection between Canada and the mother land would continue and become stronger. The enormous agricultural and mineral resources of Canada made her future quite safe, and she was bound to go on and prosper.

"What we hope," said Sir William, "is that the mother country in its own way will continue to have the support of her strongest colony. (Applause.) There are people who complain that Canada does not contribute anything to the building of battleships for the mother land. Personally I think the money of Canada is better employed in the development of the country, in the building of railways: that it is a better son who devotes himself to his father's business than one who offers his father a present of a gold watch which he doesn't want." (Hear, hear.)

Sir William referred to the possibility of a reaction in the relations in the empire, and concluded:—"The only thing we can do is to take as our guide the sense of duty. If we do what is right we will do what is best for our respective countries and for the British Empire of which we form a part. I think the empire will go on, and I hope the old country will never want the support of its strongest son." (Loud applause.)

Sir Thomas Barlow confessed to having shrunk rather from coming to the Empire Club. Doctors had many roles to play, but one which they played least of all was that of politician. If he could not talk politics he might say a few words of the young Canadians who had gone to the old land in the last quarter century to study medicine and surgery. About twenty years ago they had begun to notice a retired, reticent kind of young man among their students. But he came day after day, week after week and month after month, and presently showed that he knew a great deal that he never showed before. They found on inquiry those young men were mostly from McGill and from Toronto. Since coming to this city some of their greatest pleasures had been in meeting many of those young fellows, now occupying proud positions in their native land.

"We have asked ourselves," said Sir Thomas, "what we can do for our kith and kin in our own land. They have said they got all they wanted. They were treated as our own flesh and blood. They worked alongside our own students. We have come to the conclusion that we could not do better than let them have fair play.

There are many links binding Canada and the mother country, but there is one important link about which little is said, and that is the link of the medical men between the two countries." (Applause.)

Dr. George C. Franklin, of Leicester, England, Past President of the Medical Association, also spoke of the ties between the medical men of Britain and Canada. He had been a student from 1866 to 1870 with Dr. Arthur Jukes Johnson, his present host in Toronto, and had not seen him since 1871 until the present week. He was sanguine of the future of the medical profession, and under the guidance of the Association they could go forth to the future without fear and with a manly heart. (Applause.)

Dr. C. S. Sherrington, professor of physiology in the University of Liverpool, spoke of the recent growth of universities in the old country, no less than four new ones having been established in the last decade. If they could have medical reciprocity it would be a great benefit to the empire at large. "It would be a benefit to have an interchange not of goods but of intellect," said Professor Sherrington in closing.

After an expression of thanks to the Yacht Club for the use of their premises, to which Commodore Dr. A. A. Macdonald replied, the proceedings terminated.

At a special convocation of the University of Toronto the same afternoon the honorary degree of LL.D. (*honoris causa*) was conferred upon a number of distinguished members of the Association. Acting President Maurice Hutton presided.

The presentations were made by Dr. R. A. Reeve, dean of the medical faculty, who referred to the special services which each of the distinguished men had rendered to humanity in the realms of medicine and surgery. As each recipient responded to his name and advanced to affix his signature to the graduates' roll, after cordial greeting by the President, he was heartily applauded.

Those who received the degree were: Prof. Thomas Clifford Allbutt, M.A., M.D., LL.D., Hon. D.Sc. (Oxon), F.L.S., F.R.S.; A. H. Freeland Barbour, M.D., F.R.C.P., (Edin.); Sir Thomas Barlow, Bart., K.C.V.O., M.D.; Sir James Barr, M.D., F.R.C.P., F.R.S.E.; Sir William Henry Broadbent, Bart., K.C.V.O., M.D., LL.D., (Edin. and St. Andr.), F.R.C.P., F.R.S.; George Cooper Franklin, F.R.C.S., ex-president of the British Medical Association; Prof. William Dobinson Halliburton, M.D., F.R.S.; Sir Victor Horsley, M.B., F.R.C.S., F.R.S.; Donald MacAlister, M.A., M.D., LL.D., President of the British Medical Council; William Julius Mickle, M.D., F.R.C.P.; M. le Docteur Louis Lapicque, Maitre de conferences a la Faculte des Sciences, Paris; Prof. Ludwig Aschoff, M.D., the University of Marburg, Germany; W. J. Mayo, M.D., President of the American Medical Association.

The degree was also conferred in absentia on H. W. Langley Browne, M.D., Ch.B., F.R.C.S., Edin., Chairman of the Council of the British Medical Association.

Sir Wm. Broadbent, on behalf of the physicians of Great

Britain, thanked the University of Toronto for the great honor which had, through himself and his colleagues, been conferred upon the medical profession. Sir Wm. made a graceful reference to the fact that the University of Toronto had sent out from her halls Prof. Osler, regius professor of medicine in the University of Oxford, who is now engaged in the rejuvenescence of the faculty of medicine of that great university.

Dr. George C. Franklin, in acknowledging the honor on behalf of his associates in surgery, said they had found the technique of antiseptic surgery in Canada to have reached a completeness and thoroughness which he hardly thought, speaking generally, was to be found throughout England. They were glad to have come, and would go back to England knowing that the surgeons on this side of the Atlantic were among the very foremost in the world.

Prof. Halliburton acknowledged the honor on behalf of the British physiologists, referred to the fact that he was not altogether a stranger to Toronto, and spoke pleasantly of his former visits.

Dr. Lapicque, who was called upon on behalf of the French, German, and United States recipients of the degree, spoke in French. He referred to the "sleeping" cannon which he noticed in front of the Parliament buildings, and, commenting upon the inscription which indicated that they were captured by the allied armies of England and France at Sebastopol fifty years ago, suggested that the entente cordiale of to-day, which meant so much to the peace of the world, was but a continuation of that alliance. He expressed the fervent hope it might long continue.

Before convocation adjourned, Professor William Gardner, in the absence of his colleague, Dr. Roddick, dean of the medical faculty, announced that it had been determined at the next convocation of McGill University to confer the degree of LL.D. (in absentia) upon Sir Thomas Barlow, Sir William Henry Broadbent, Prof. Albutt, and Sir Victor Horsley.

The section of the British Medical Association on State medicine concluded the consideration of the important subject of control of milk supplies, and the unanimous opinion of the members was crystallized into a recommendation to the Local Government Boards of England and Ireland, and the Provincial Board of Health of Ontario, that there should be a more stringent enforcement of regulations governing the handling and distribution of milk and the supervision of dairies. Owing to the reluctance of local authorities to enforce the law the desirability of a general supervision by the central Government authority was affirmed.

Prof. Hewlett read a paper in which he emphasized compulsory veterinary inspection as an essential prerequisite to a pure milk supply. The employment of the tuberculin test and the separation of cows which reacted from those which were healthy, and the enforcement of the law by a central authority in each county under the supervision of the Government Board of Health, that the immediate chilling of milk should be made compulsory as a

precautionary measure, and the distribution of milk in sealed bottles was also advised.

Dr. P. H. Bryce explained the legislation which has been adopted in Ontario on the subject of supervision of dairies, by which dairymen are required to take out a license which carries with it the liability to inspection.

Prof. Harcourt, Guelph, regretted that consumers had not made themselves heard when the producers made their complaint, which resulted in a beneficial law providing for proper precautions in dairies being hung up in 1896.

Prof. Glaister urged that the weak spot in the existing regulation and law was that Executive action was deferred until the harm had been done. He advocated a system of inspection and supervision which would be as far as possible preventive in its operation.

After further discussion a resolution was adopted unanimously expressing the opinion that the time has now arrived when the existing provisions of the law with regard to the housing of dairy cattle, milk storage, and milk distribution, and the periodical inspection of such cattle and dairies should be more strictly enjoined upon the local authorities. The resolution will be forwarded through the Council to the Local Government Boards of England and Ireland and the Provincial Board of Health of Ontario.

The important topic of hygiene of the home and public institutions next engaged the attention of the section. The initial paper upon the subject was read by Dr. J. J. Cassidy, of the Ontario Board of Health, who dealt with the subject in an interesting manner, offering many practical suggestions for the perfection of the hygiene of the home. The first requirement is a dry site, and the ideal situation is one in which the corners of the house point north and south, thus enabling the sunlight at some time during the day to penetrate every room. That the basement should extend beneath the entire house, with windows extending nearly to the top of the wall, was of the greatest importance.

Good plaster is best for walls and ceilings, and wall papers should be avoided. When necessary, paint and enamel should be used. The less pretentious portions, the basement and the kitchen, are in a way the most important parts of a dwelling, and should naturally receive more frequent attention and overhauling than the drawing-room, where presumably organic filth can hardly gain access.

The model bedchamber of the twentieth century was to be a picture of simplicity blended with taste. There will be no microbe-catching carpets to be dusted—just a washable rug beside the bed. The waxed floor will be mopped every morning with a damp woollen cloth. The ceilings and walls will be painted white with enamel paint. The window curtains will be of cotton or some other washable fabric and will be frequently sent to the laundry. The iron bedstead, with its woven wire mattress, will contain just the needful quantity of clothes.

Dr. Helen MacMurchy, Toronto, gave an instructive paper on the medical inspection of schools. Dr. MacMurchy claimed that expert medical knowledge was necessary in looking after the health of the children, which could not be expected and was not available in the teacher, who had enough to do to impart instruction and was not too well paid. Neither would the voluntary medical inspection of schools as carried on in Italy be effective; only that inspection which was properly remunerated would be satisfactory. Incidentally Dr. MacMurchy urged the absolute importance of every one knowing how to feed children properly in order that they may grow up strong and vigorous.

Mr. William Scott, B.A., Principal Normal School, Toronto, in an able paper upon the same subject regarded the preservation of the health of the pupil and the imparting of sufficient education to enable him to discharge the duties of life as the duty of the State. As the school population numbered one-seventh of the community, the schools were centres from which disease spread. The logical outcome of compulsory attendance at school was the compulsory physical examination of the pupil by those competent to make it. The importance of medical inspection was emphasized in reference to defects of eyesight and hearing which so frequently interfered with the progress of the pupils.

In an able paper read before the section on psychology, Dr. Crothers, of Hartford, dealt with the insanity of inebriety, which, he argued, was a more accurate term than alcoholism. The insanity of inebriety had been recognized long before insanity was considered a disease. The insane inebriates were the periodic drinkers, whose excesses were manias, epilepsies, circular insanities, and in the later stages all these symptoms merged into pronounced forms of insanity. The second form of insanity prominent in the inebriate is the continuous drinker who early displays delusions of exaltation and strength he does not possess, and who is practically a reasoning maniac and the most diseased of all drinkers. The cumulative action of alcohol in small doses acts first on the senses, then on the reason, and is followed by neuronie degeneration, toxomic conditions and nutrient perversions. The so-called "moderate and steady drinker" is the most devitalized and degenerate of all users of alcohol. A very large proportion of the diseases of modern civilization are due to the direct or indirect action of alcohol on the cells and nerves. Experience shows that these cases are curable to a far greater degree than realized at present. The whole subject must be studied medically before any real progress can be made. The present efforts by law and moral measures are great blunders and actually increase the disease which they try to prevent.

Incidentally during the discussion of abdominal operations in the section on obstetrics, the point was raised as to whether or not the vermiform appendix, which is the seat of the disease known as appendicitis, should be removed, whether diseased or not, whenever an operation was performed for any other abdominal trouble. One

or two doctors took this view, on the ground that the appendix was unnecessary and likely to cause trouble. The majority who spoke, however, thought it better not to remove the appendix unless it was diseased. "Sufficient unto the day is the evil thereof," said Dr. Cartens of Detroit.

The medicine section held a joint discussion on "Heart Block," a disease of the heart somewhat new to the medical profession. Prof. Aschoff, of Freiburg, Germany; Dr. McKenzie, of Burnley, England, and Dr. Erlanger, of Baltimore, gave important papers on the disease, each a splendid authority on the subject. The general result of the discussion was to bring a great amount of new information on the subject, known before to only a few, before a wider range of doctors.

Caustics were recommended as the best remedy for cutaneous cancer, in a discussion in the dermatological section. X-ray was recommended in select cases.

FRIDAY'S SESSIONS.

The Congress of the British Medical Association closed on Friday afternoon, and on Saturday the members and visitors were off either pleasure-seeking or on their way home. Nearly 2,000 medical men were present, a remarkable attendance considering the distance which many of them travelled. Between sixty and seventy meetings were held. The next meeting will be held in Exeter, England. Several important statements developed at the closing meetings of the sections. Dr. P. H. Bryce, from his experience as an inspector of immigrants entering Canada, asked that the parochial authorities in Britain guard against assisting men of the "no-good" or unemployable class.

A remarkable advance in surgery was shown by Dr. Carrell, of Chicago, in the physiology section, who exhibited cats and dogs in which the kidneys of other animals were transplanted.

Two dogs and two cats holding in their bodies transplanted kidneys formerly belonging to other cats and dogs, now unhappily sacrificed in the interests of science, stood before the section on physiology yesterday morning as marvels in surgical accomplishment. All were in fine health and showed the natural desires of their kind, the cats to spit and the dogs to growl. The surgeon who was responsible for this great step in science was Dr. Alexis Carrell of the University of Chicago. Dr. Carrell, who is a comparatively young man, explained his experiments to the physiologists present. One of the dogs present had the transplanted kidneys in his neck, and they seemed to be performing their functions successfully. Dr. Carrell said he had already succeeded in having dogs live seventeen days after the operation. One of the cats exhibited had possessed its new set of kidneys for two months.

The limbs of cats and guinea pigs have also been cut off and put on again, the animals doing well afterwards. Dr. Carrell was modest as to what he hoped to accomplish on the human being, but other

physiologists present were very hopeful, though the problem was, they admitted, to get any person to consent to such an operation.

Another side to the alcohol question was presented in the therapeutics section, where the value of that drug in medicine surgery was under discussion. Dr. A. D. Blackader of Montreal said the value of alcohol as a stimulant had been overestimated, but under certain conditions it was useful and had a food value.

Dr. S. J. Meltzer of New York said the facts as known to-day were favorable to the judicious use of alcohol in disease. There were reliable experiments on record showing that it developed an immunity in experimental infections, and that it was capable of moderately stimulating the heart and of increasing the blood pressure.

Dr. W. E. Dixon, of Cambridge, England, gave results of recent experiments, which were on the whole favorable to the view that alcohol has a distinct action which may be utilized in the treatment of disease.

Professor G. Sims Woodhead, also of Cambridge, urged the other view presented by himself at Wednesday's temperance luncheon, that alcohol was of little value in medicine and should be used with great care.

Some comfort for typhoid patients was supplied by Dr. F. J. Smith, of London, Eng., in the medicine section, who condemned the routine milk diet, and favored the use of solids, provided they have no seeds or other small substances likely to cause trouble. He also favored giving a patient food when he wanted it, and not when he did not want it. He said he had had good results from this method.

Sir Thomas Barlow, president of the section, was inclined to support Dr. Smith's contentions, but said care should be taken not to give the patient too much food when he became ravenous.

The sleeping sickness prevalent in some parts of Africa, was discussed by Dr. F. W. Mott, of London, Eng., in the section of pathology. He said it was spreading along the lines of commercial communication in Africa, and had also reached China. It affected white people as well as natives. It had its seat in the brain and was due to a germ, which a fly carried from an infected person to a healthy person by biting both. No cure has as yet been found for it.

Dr. P. H. Bryce, Chief Medical Officer of the Department of the Interior, commenced the proceedings in the State medicine department by an able paper on the need for international co-operation in the inspection of emigrants and immigrants. The immigration statistics of Canada, and the difficulties due to chronic pauperism in Great Britain, and the statutes which have been passed in various countries for controlling the undesirable element inevitably found in all countries of the world, were reviewed. Dr. Bryce also treated with the problem of dealing with the insane, and explained the arrangements existing between the U.S.A. and Canada,

and concluded by a forcible appeal for the co-operation of Britain in the improvement of the condition of the emigrant, and for a complete interchange of official arrangements. He especially urged that British parochial authorities guard against assisted emigration of "unemployables," or "no goods," by seeing that the assisted have some certificate of character, both physical and moral, before being given passage.

"The State Control of Health" was dealt with in an interesting manner by Dr. Samuel Drennan, of St. Thomas, Ont., who pleaded for a fuller recognition by the State of its duty towards the health of the people, and desired to include in the scope of the health department all hospitals and asylums, and, indeed, all the members of the medical profession. The growing prevalence of the habit of taking all sorts of drugs without medical supervision and the necessity for more knowledge in the matter were also alluded to.

In the discussion which ensued Dr. Woodward, of the Marine Hospital Service of the U.S.A., very warmly commended the meritorious paper read by Dr. Bryce. Dr. Hutchinson, of Westmount, Quebec, and Dr. Oldright called attention to the great need for better control of the sale of patent medicines. Dr. Montizambert, president of the section, expressed cordial appreciation of Dr. Bryce's work, and Dr. Mussen, of Liverpool, dealt with the subject of methods of emigrant inspection at that port, with special reference to transigrants, who constitute a very large proportion.

Mr. McGill, B.A., B.Sc., assistant analyst of the Inland Revenue Department, Ottawa, read an interesting paper on "The use of food preservatives with the view to legislation on the subject." He dealt at length with the various forms of chemical food preservatives, and also as to the need or proper limitation of added substances and for efficient labelling.

Dr. H. L. E. Johnson, trustee of the American Medical Association, Washington, in an exceedingly able paper, dealt with the important subject of "The national supervision of food." The dangers of adulterated foods and patent medicines were pointed out, and the need was shown for collecting under a system of uniform legislation in every State all the duties which could possibly be assigned to Boards of Public Health.

Dr. Spooner, Liverpool, England, dealt concisely and effectively with the subject of "Sailors' Foods."

Prof. Glaister, Glasgow University, expressed the opinion that the use of preservatives in food was objectionable. The recognized use of certain preservatives, however, was an admission of their usefulness, and therefore he suggested there should be a classification made of preservatives into two classes, one of which would comprise those which were harmless in their operation and effect, the other those which were harmful. In view of their general use he would be inclined to take salt, sugar and one or two other things of a similar character out of the class of preservatives altogether,

and regard them, as the Germans do, as food adjuncts. The pickling and salting of meat robbed it of some of its most useful contents, which passed out into the brine. Prof. Glaister was also inclined to think that a little more consideration might with advantage be paid to the effect of cold storage upon foods. He could not believe from his observations that with certain food products cold storage was always useful.

Dr. Atkinson, Medical Health Officer, Hong Kong, in a short but ably written paper, gave an interesting story of the difficulties experienced in dealing with the plague and other epidemics.

At its last two meetings the surgical section had an attendance of 500, which constitutes a record for the association. Before closing on Friday a vote of thanks was passed to Sir Hector Cameron, Glasgow, president of the section, on motion of Sir William Hingston of Montreal and Dr. Murphy of Chicago.

A valuable paper on the present status of military arrangements in Canada was read in the medicine section by Dr. J. T. Fotheringham. The doctor said that though Canada was peacefully developing her resources, she yet had a medical equipment for her military forces which was creditable for her size.

Dr. Coote of Quebec criticised the visual tests for the pilots on the St. Lawrence, but Dr. Page of Quebec, who is in charge of the tests, replied, defending them.

Friday afternoon the members of the psychological section, to the number of about 150, were entertained at luncheon at the asylum, Queen street west, by the Ontario Government. Dr. C. K. Clarke, medical superintendent, presided. Hon. J. W. Hanna, in proposing the toast "The Empire," speaking on behalf of the Government, welcomed the members of the association to Canada. Dr. George Cooper Franklin responded in happy terms. Other toasts were: "The Psychologists of Great Britain," proposed by Dr. T. J. Burgess, superintendent of the Montreal hospital for the insane, and responded to by Dr. Wm. J. Mickle, president of the psychological section, and a graduate of Toronto University, who has for thirty years been medical superintendent of a large asylum in London, Eng., and Dr. A. T. Schofield, London, Eng.; and "The Psychologists of America," proposed by Dr. Ryan, medical superintendent of the Kingston asylum, and responded to by Dr. H. Hurd, medical superintendent of Johns Hopkins hospital, Baltimore, and Dr. Brush, superintendent of Vermont State hospital.

EXHIBIT HALL.

WHAT was perhaps the most complete exhibition of pharmaceuticals, surgical instruments and dressings, medical books, hospital furniture, etc., that has ever been made at any medical convention in Canada, took place in the West and East Halls of the Main Building of the University of Toronto, and reflected great credit upon the committee who had charge of the same. It would be impossible, owing to lack of space, to more than refer to the firms who were represented. They included

The Globe Manufacturing Co., of Battle Creek, Mich., who made a display of their nebulizers, nebulizing outfits, air vibrators, electric air pumps and nasal sprays.

H. & T. Kirby Co., Ltd., of London, Eng. This firm had a most attractive display of Purgin, a recently-introduced aperient, one that is non-irritating, and therefore very useful in pregnancy and the puerperal state, made in three strengths, infant, adult, and strong. They also exhibited glycecols, compressed tablets, glycerine suppositories, medical pessaries and bougies, sal mineralis (an alkaline aperient salt), pills and several antiseptic preparations, including Kirby's Thymol Toilet Powder, Eucalyptisine, Eucalyptol Soap, etc.

J. & J. Colman, Ltd. (with which is incorporated Keen, Robinson & Co., Ltd.), London, Eng., exhibited Robinson's Patent Barley and Groats. Of Patent Barley, Dr. Pye H. Chevasse says, "The best artificial food, in my opinion, is cow's milk and Robinson's Patent Barley."

Parke, Davis & Co.'s exhibit included a series of charts showing the physiologic effects of various drugs upon the heart, circulation, respiration, etc. Specimens of Ergone, Digitalone and Veratrone were also seen. This interesting display also contained the following products: Adrenalin Chloride, and Adrenalin Chloride Solution. Taka-Diastase, which converts 150 times its weight of starch into sugar in a few moments. Acetozone, a powerful bactericide that may be used internally without ill-effect. Biological Products: *e. g.*, Antidiphtheric Serum, Antitetanic Serum, Antitetanic Dusting Powder, Antistreptococcic Serum. Typhoid Agglutometer, for diagnosing Typhoid without a microscope, and other preparations.

Mellin's Food Co., Boston, Mass., U.S.A., made a display of Mellin's Food for Infants and Invalids. Mellin's Food is a dry, soluble, cereal extract made from Barley Malt and Wheat, and contains all the nutritious elements of the grains in a highly concentrated form. It is a completely malted food, the carbohydrates

being in the soluble forms of maltose and dextrins. It is entirely free from starch and cane sugar.

J. B. Lippincott Company, Publishers, of London, Montreal and Philadelphia. This firm, which has been established in London since 1872, and in Philadelphia since 1792, is to-day operating perhaps one of the largest and the most completely equipped book publishing plants in America. In the J. B. Lippincott Company's exhibit was found a complete line of medical and surgical publications, many of which have long since become standard on the subjects treated. Prominent on the shelves of their display were such familiar titles as "Wood's Therapeutics," a 13th edition now printing; "Roth's Pediatrics," 5th edition printing; "White and Martin Genito-Urinary and Venereal Diseases," 7th edition on press, and "Cattell's Post-Mortem Pathology," 3rd edition printing, and many other equally familiar volumes.

Burnham Soluble Iodine Co., Auburndale, Mass., proved the therapeutic possibilities of Iodine Medication. They exhibited their Soluble Iodine Preparation.

Canada Mineral Water, Ltd., Ottawa, Canada, exhibited Russell Lithia Water, a genuine, natural, spring Lithia Water discovered in Canada. It has been on the market only three years and its sales to-day are as great as those of any other mineral water.

Eby, Blain & Co., Ltd., Toronto, occupied Space 24 with a display of Norka, a popular breakfast food.

Battle Creek Breakfast Food Co., Ltd., Buffalo, N.Y.; Quincy, Ill.; Canadian Branch, 43 Scott St., Toronto, showed Egg-o-Sec. Egg-o-Sec is the whole of the wheat, in its most palatable form, grown in California, cooked and flaked, preserved in air-tight packages, never touched by the human hand from the reaping of the grain to the serving at the table.

Wreyford & Co., Toronto, had a display of Aertex Cellular Underwear, Shirts, Pyjama Suits, etc.

Postum Cereal Co., Ltd., occupied Spaces Nos. 29 and 30, and exhibited Grape-Nuts and Postum Food Coffee. Samples were given visiting physicians, and demonstrations made whereby visitors partook of these goods properly prepared.

The Denver Chemical Mfg. Co., New York, U.S.A., made a very attractive exhibition indeed of Antiphlogistine. Antiphlogistine, popularly known to the medical profession as Inflammation's Antidote, is a Hygroscopic, Antiseptic Cataplasm, indicated in all superficial and deep-seated inflammatory and congestive conditions. It is composed of the finest Anhydrous and Levigated Argillaceous Mineral, Chemically Pure Glycerine, Compounds of Iodine, representing a small percentage of Elementary Iodine, minute quantities of Boric and Salicylic Acids and the Oils of Peppermint, Gaultheria and Eucalyptus. Antiphlogistine is a non-irritating,

non-toxic poultice and dressing, always ready for immediate use and possesses hygroscopic, exosmotic, endosmotic, nutrient and indirectly anodyne and hypnotic properties.

Fairchild Bros. & Foster, New York, made a display in the West Hall of Panopepton, Essence of Pepsine, Peptogenic Milk Powder and Peptonising Tubes, as well as their preparations of the Pancreas Gland, for Hypodermic, Internal and External Use. Injectio Trypsini (hypodermic) in sealed ampoules. Injectio Amylopsini (hypodermic), in sealed ampoules. Lotio Pancreatis (a Trypsin Surgical Solvent). Holadin (in capsules only). A pancreas gland extract of peculiar potency in respect to trypsin, amylopsin and lipase. Internal Secretion (hypodermic). Tryps-alin (Surgical Solvent). "Pepule" Pancreo-Hepatic. "Pepule" Ox Gall Compound. "Pepule" Pancreatic, and "Pepule" Pancreatic Compound.

E. B. Meyrowitz, New York, showed instruments and apparatus employed in the diagnosis, treatment and surgery of diseases of the Eye, Ear, Nose and Throat.

The Oakland Chemical Co., New York, showed their well-known preparation Dioxogen. Formerly known as Oakland Hydrogen Dioxid, is made in strict accordance with the U. S. P. requirements, and is absolutely harmless for internal or external use. It is guaranteed pure.

The Allen & Hanburys Co., Ltd., London, Eng. This exhibit was made of the "Allenburys" Infant Foods. Mr. W. Lloyd Wood, Canadian Agent, showed the "Allenburys" Diet. The "Allenburys" Liquid Beef, the "Allenburys" Castor Oil, the "Allenburys" Cod Liver Oil, Bynin, Liquid Malt, Bynin Amara, Bynin Emulsion, Bynol, the "Perfected" Malt and Oil. Byno-Glycerophosphates, Byno-Haemoglobin, Byno-Hypophosphites, Byno-Pancreatin, Byno-Phosphates, the "Allenburys" Throat Pastilles, and Kapsols.

Lambert Pharmacal Company, St. Louis, U.S.A. W. Lloyd Wood, Manufacturing Chemist and Manufacturers' Agent, Toronto, Canada, showed Listerine, the Standard Antiseptic. Formula—Listerine is the essential antiseptic constituent of Thyme, Eucalyptus, Baptisia, Gaultheria and Mentha Arvensis in combination. Listerine Dermatic Soap. Listerine Dermatic Soap contains the essential antiseptic constituents of thyme, eucalyptus, mentha and gaultheria, which enter into the composition of the well-known antiseptic preparation, Listerine.

Callard & Co., 74 Regent Street, London, Eng. New Diabetic Foods. All guaranteed free from starch, sugar and other carbohydrates. The articles shown include Starchless Bread, Starchless Biscuits, Starchless Flour, Sugarless Jams, Sugarless Marmalade.

Burrighs Wellcome & Co., Manufacturing Chemists, London,

Sydney, Cape Town. This firm are pioneers in the introduction of some of the most notable agents employed in modern medicine. They have developed many new processes and employ exclusive machinery invented and produced at great cost. Special attention was directed to the following exhibits: "Tabloid" Bland Pill, "Tabloid" Cascara Sagrada, "Tabloid" Hypodermic Cases, "Tabloid" Medicine Chests and Cases, "Tabloid" Ophthalmic Products, "Hemisine," "Hazeline Snow," "Soloid," "Wellcome" Brand Chloroform, Diphtheria Antitoxin Serum, "Wellcome," Anti-Streptococcus Serum (Polyvalent, "Wellcome,") Pleated Compressed Bandages and Dressings, "Tabloid" Brand, "Enule" Brand Suppositories, "Kepler" Malt Preparations, "Kepler" Solution.

C. F. Birtman Co., Chicago, Ill., showed a most complete line of static machines, X-ray coils, high frequency apparatus, Vibrators and Ozonators.

The Bausch & Lomb Optical Company, Rochester, N.Y., were represented by Dr. L. P. Barclay, who showed their celebrated BB's and DD Microscopes, their improved Minot Rotary Microtome and a new model Projection Apparatus.

Chandler, Ingram & Bell, Limited, 285 Yonge St., Toronto, Canada, had one of the most attractive displays of surgical instruments in the Hall. Their exhibit reflected credit upon their firm. Chandler, Ingram & Bell are rapidly making for themselves a nice reputation.

The Canadian Rubber Co. of Montreal, Limited. (Toronto Branch, 1 Front Street East), displayed Physicians' Rubber Specialties.

J. A. Carveth & Co., Ltd., 434 Yonge St., Toronto, showed a complete line of the publications issued by the following well-known houses: W. B. Saunders & Co., Philadelphia, U.S.A.; Bailliere, Tindall & Cox, London, Eng.; Longmans, Green & Co., London, Eng.; H. K. Lewis, London, Eng.; John Wright & Co., Bristol, Eng.; Scientific Press, London, Eng.; Year Book Publishers, Chicago, U.S.A.

Duncan, Flockhart & Co., Edinburgh, Scotland (Agent for Canada, R. L. Gibson, 88 Wellington St. W., Toronto), had a very tasteful exhibit, and showed Chloroform (Duncan's S. G. 1.490); Chloroform (Duncan's S. G. 1.497); Anaesthetic Ether (Sp. Gr. .720; Aether Purificatus (Sp. Gr. .720); Methylated Ethers; Chloric Ether (Duncan's); Chloryl Anaesthetic (Duncan's); Bromide of Ethyl (Pure); Flexible Capsules, D. F. & Co., Bland Pill with Aloes, Bland Pill with Aloes and Arsenic, Bland Pill with Aloes and Nux Vomica, Bland Pill with Arsenic, Bland Pill with Arsenic and Nux Vomica, Cascara Capsules, Cascara, Belladonna and Nux Vomica, Easton Syrup Capsules,

Glycerophosphate Capsules, Compound Terpo-Heroin Capsules, and Ophthalmic Capsules.

The J. F. Hartz Co., Limited, Toronto, Ont.; Detroit, Mich., controlled the following exhibits: Victor Electric Co.'s well-known electric specialties. The Victor Electric Co. manufacture one of the largest lines of these goods in America. The exhibit also included goods from The Spencer Lens Co., of Buffalo, and The Scanlan Morris Co., Madison, Wis.

The Apollinaris Co., Ltd., London, displayed Apollinaris Natural Mineral Water, from the Apollinaris Spring, near Neuenahr, Rhenish Prussia, is an acidulated alkaline table water of absolute purity and high effervescence. It is drawn from a deep, rocky source, situated about fifty feet below the surface of the earth, at which depth the water contains an enormous amount of Natural Carbonic Acid Gas, and the bottled Water contains as nearly as possible the same amount of this Natural Carbonic Acid Gas as the Water at that depth.

They also exhibited Apenta Natural Aperient Water. "Apenta" Water is a natural purgative Mineral Water, from the Apenta Springs, Budapest, Hungary. A natural laxative, suited for continuous use, remarkable for its richness in its sodium and magnesium sulphates, and for its uniform strength and composition.

Kress & Owen Company, New York, N.Y., had a very artistic surgical display of Glyco-Thymoline opposite the door of the East Hall. The following abstract goes to show the value of this preparation: "Case 1. N. B., age 21, dysentery. Began with slight diarrhoea, loss of appetite, nausea and some little fever when, on the second day, temperature increased to 103 F. Stools became very frequent and changed from fecal to a grayish color, containing a blood and pus. Urine became scanty and highly colored. There was intense pain on pressure over the colon, an intense burning pain in the rectum. Vomiting became very severe. Treatment: Gave Glyco-Thymoline in teaspoonful doses in hot water every two hours and flushed out the bowels with a solution of Glyco-Thymoline, consisting of one part Glyco-Thymoline to five parts of water. The third action after this was used contained no blood whatever. The patient steadily improved and within one week from date of treatment was up and well. I might also mention that during the first part of the attack the young man had lost twenty-four pounds in weight.

Henry K. Wampole & Co., Perth, Ont., exhibited the following: Wampole's Tasteless Preparation of the Extract of Cod Liver Oil, Creo Terpin Compound, Phospho Lecithin, Renatone, Asparoline, Antiseptic Vaginal Cones, Plain; Antiseptic Vaginal Cones, with Icythyol; Antiseptic Vaginal Cones with Telthyol

and Iodine, Tonga Salicyl, Alvinine Suppositories, Glycerine Suppositories, Bismuth Hydrate Compound, Papain Digestant, Hypno Bromic Compound, Milk Food, Pil Nephritic, Pap Ken Tablets, Syrup of Hydriodic Acid.

New York Pharmacal Association, Yonkers, N.Y. (Canada Office, 88 Wellington St. W., Toronto; R. L. Gibson, Agent), showed Lactopeptine (Powder), Lactopeptine Tablets, Lactopeptine Elixir, Elixir Lactopeptine with Phosphate of Iron, Quinia and Strychnia.

Palisade Manufacturing Co., Yonkers, N.Y. (Canadian Office, 88 Wellington St. W., Toronto; R. L. Gibson, Agent), had a display of Hemaboloids. A palatable solution of natural iron-bearing nucleo-proteids, extracted unchanged from richly ferruginous vegetables, reinforced by (1) A synthetically prepared true organic iron compound, (2) Nutrient Albuminoids, (3) The hematinic principle of bone marrow, and (4) Nuclein, to stimulate normal metabolism; Hemaboloids-Arseniated (with Strychnia), and Borolyptol, an antiseptic and germicidal fluid for intestinal and external use.

The Arlington Chemical Co., Yonkers, N.Y. (Canada Office, 88 Wellington St. W., Toronto; R. L. Gibson, Agent), exhibited Beef Peptonoids (Soluble), Liquid Peptonoids, Liquid Peptonoids with Cresote, and Cascara-Peptonoids (Tonic Laxative).

D. Appleton & Co., New York City, had a display of the following best books on Obstetrics, Gynecology and Surgery: Williams' "Obstetrics," Wright's "Obstetrics," Reed's "Gynecology," Pryor's "Gynecology," Bryant's "Operative Surgery," Key's "Genito-Urinary," Tuttle's "Anus, Rectum and Pelvic Colon," Kelly's "Operative Gynecology."

Spaces 82, 83 and 84 were taken by the Chas. H. Phillips Chemical Co., New York, and London. They exhibited Phillips' Phospho-Muriate of Quinine. Physiologists have demonstrated that Phosphates administered in an acid solution, as exhibited in "Phospho-Muriate of Quinine," are readily absorbed and assimilated. This preparation supplies necessary elements (Phosphorus, Potassium, Magnesium, Lime, Iron) required for building up tissue, and the prompt and pronounced improvement which marks its administration in diseases of nutrition is an indication, not only of the individual utility, but of its superiority over the hypophosphite preparations which seek to effect the same end. The firm also demonstrated Phillips' Digestible Cocoa and Phillips' Milk of Magnesia.

Walter Baker & Co., Ltd., Dorchester, Mass., U.S.A.; Montreal, P.Q., exhibited their well-known Breakfast Cocoa. Baker's Chocolate (unsweetened). Baker's Vanilla Chocolate. Baker's Caracas Sweet Chocolate, and German Sweet Chocolate.

Ferris & Co., Bristol, England (R. L. Gibson, Agent, 88 Wellington St. W., Toronto), had a most unique display of their pharmaceuticals and dressings. They included Nepenthe, Glycerole of Nepenthe, "Ever-Ready" Dressings, Plasters, etc., "Ever-Ready" Caddies, "Ever-Ready" Cabinets.

Armour & Company, Chicago. Armour & Company, Chicago, exhibited the products of their laboratories, including Suprarenalin, Suprarenalin Solution, Suprarenalin Ointment and Suprarenalin Triturates; Thyroids, powdered and tablets; Extract of Red Bone Marrow; Pepsin, Essence of Pepsin, Glycerole of Pepsin, Lactated Pepsin, Pepsin Tablets; Pancreatin, Essence of Pancreatin, Glycerole of Pancreatin; Benzoinated Lard; Parathyroids, Parotid, Thymus and other glandular substances in powder and in tablets.

The DeVilbiss Manufacturing Company, Toledo, O., and Windsor, Canada, exhibited their Atomizers, Nebulizers and Powder Blowers. Especially adapted for Physicians' and Patients' own use. DeVilbiss' Atomizers will spray oils, aqueous or alcoholic solutions in any direction. DeVilbiss' Nebulizers will throw a profusion of moist or dry vapor. DeVilbiss' Powder Blowers will throw powder in any direction desired, without lurching. Dr. W. H. Wakefield, Charlotte, N.C., says of those atomizers: "For nearly twenty years I have used in my office and had my patients use in their homes the DeVilbiss Atomizers. I have used many others and always examine the new atomizers as they come on the market, but I find none of them so generally useful as the DeVilbiss No. 16. This instrument is so made that the spray can be turned in any direction. You can also obtain a coarse spray from the same instrument by closing the pin hole in the cap on the bottle with the finger. Another point of considerable value is the ease with which the instrument is cleaned and freed of foreign matter in the air or fluid passages. It is quite durable."

Brand & Co., Ltd., Mayfair Works, London, had a large number of Specialties for Invalids. Essence of Beef, Mutton, Veal, and Chicken, Meat Juice, Concentrated Beef Tea, Fever Food, Beef Tea Tabules, Meat Lozenges, Beef Tea Jelly, Chicken Jelly and Mutton Jelly, Turtle Soup and Turtle Jelly, Invalid Mock Turtle, Ox Tail and Gravy Soups, Bouillon, Albuminous Essence of Beef.

R. M. Clark & Co., Boston, Mass., exhibited their "Hand-I-Hold" Babe Mits.

Benger's Food, Ltd., Otter Works, Manchester, Eng., exhibited their well known food. Benger's Food consists of a specially finely ground nitrogenous, wheaten meal, cooked and impregnated with a suitable proportion of the fresh, natural digestive principles of the pancreas trypsin and amyllopsin.

The Ramage Milk Products Co., Mack Ave. and Belt Line, Detroit, Mich., showed Lactalbumin, a pure, soluble proteid of whey, perfectly free from acids, alkalies, or decomposition products. They also demonstrated Mothermilk, Nature's food, a pure, dessicated modified milk, containing the requisite amount of pure Lactalbumin, and an increased amount of pure milk salts. Another of this firm's preparations is Camphoric Superoxide, a highly oxidized product of Eucalyptol, obtained by passing ozone through Eucalyptol, heated at 60 deg. C., in the presence of Platinum Black. Camphoric Superoxide Liberates Nascent Oxygen, or ozone, in the presence of water for a period of 36 to 40 hours, at the same time leaving Eucalyptol in the system, which is quickly passed off.

The Electro-Surgical Instrument Co., Rochester, N.Y., made a very nice exhibit of their goods. They are manufacturers of Electrically-Lighted Surgical Instruments and Electro-Therapeutic Appliances, Illuminated Cystoscopes, Urethroscopes, Vaginal and Rectal Speculums, Bongies, Auriscopes, Laryngoscopes, Gastrodiaphanes, Oesophascopes, Tongue Depressors; also Canteries, Dilators, Sounds, Batteries, Transformers, Miniature Lamps, etc., etc.

Reed & Carnrick, Jersey City, N.J., had a very attractive display of Protonuclein (proto et nucleo-plasm), the unchanged primary substances with the nuclei of the cells of glandular portions of the body. They also demonstrated the therapeutic value of the following preparations, *e. g.*, Peptenzyme (nucleo-enzymes), the unchanged primary-enzymes or nucleo-enzymes of all the glands which have anything to do with digestion. Panerobilin, dehydrated bile and nucleo-enzymes of pancreas. Nephritin, the unchanged primary substances of the cells of the cortex with the convoluted tubules of the kidney. For samples and literature apply to the firm's Canadian representative, A. L. Massey & Co., 61-65 Adelaide St. E., Toronto, Canada.

The Habbe Therapeutic Lamp Co., Chicago, Ill., exhibited their Large Lamp which, they claim, generates 500 degrees of heat with a 50 candle power, specially constructed concentrated globe. They also showed a Small Lamp, which generates between two and three hundred degrees of heat.

The Shelton Portable Vibrator was demonstrated by Mr. Leopold Stargardter, Canadian agent for the manufacturers. This exhibit interested a large number of the physicians present, many of whom were glad to see demonstrated an instrument that has proven itself valuable. For a full description of the Shelton Vibrator, we would refer our readers to page xvi of this issue. Mr. Stargardter's address is 417 St. Catherine St., Montreal.

Down Bros., Ltd., 21 St. Thomas Street, London, England,

had spaces 133-137 inclusive, and had as handsome an exhibit as was ever displayed at any meeting of the B. M. A. It included Aseptic Hospital Furniture for Operation Theatres and Wards of Hospitals, Surgical Instruments of their own manufacture, First Aid Box, Down Bros. Patent Surgical Noiseless Hand Motor, with Drills for Bone Boring; Bone Screwing Instruments, by Mr. Arbutnot Lane; Artery Forceps, Needle Holder, Stitch Removing Forceps, Aurial Instruments, Auriscopes, Curettes, Myringotomes, Forceps, etc., Nasal Dressing Forceps, by Dr. Pegler; Adenoid Curettes, by Mr. Ballance; Antrum Instruments, Eye Instruments, Laryngeal Forceps, Tonsil Instruments, Appendicectomy Clamps, Gallstone Forceps and Scoops, Intestine Clamps, Peritonium Forceps, Pile Suture Forceps, Sigmoidoscope, Midwifery Forceps, Uterine Dilators for Puerperal Eclampsia, Lithotomy Straps, Lithotrites, Supra-pubic Apparatus, Cystoscopes, Urethroscope, Urine Segregator, Pocket Spittoons, and Anaesthetic Apparatus.

The Abbott Alkaloidal Co., Chicago, exhibited a splendid line of granules and tablets, containing a definite quantity of pure alkaloid, glucoside or other active principle, together with a line of carefully selected compounds which are the result of well authenticated experience. This firm also manufactures an effervescent salt, called Saline Laxative, which is a repurified, dehydrated sulphate of magnesia in effervescent combination. All of which were found tastefully exhibited in Space No. 142, Avenue BB, on the corridor leading to the Smoking and Reading Room, and directly opposite the Tea Room. The exhibit was under the direct supervision of Dr. Thackeray, Chicago, with Mr. Sam Featherstone, of Cobourg, Ont., special representative, in attendance.

The Spear-Marshall Co., Chicago, manufacturers of the Leucodescent Therapeutic Lamp, have an exhibit at the meeting of the British Medical Association. The 500 c.p. Leucodescent is a powerful photo-therapeutic instrument, employing 12 amperes of current. This gives it a richness of quality of spectrum heretofore never attained in the incandescent type of therapeutic lamp. The luminous and chemical frequencies are very valuable therapeutic modalities and are here applied in a very convenient manner in combination with radiant heat of such power as to be available as a cautery when required. The intensity is under perfect control of the operator, however. The combination of all the rays of the visible spectrum, in addition to the thermic rays, is anodyne, nutritional and bacillicidal. The manufacturers have done much to place the therapeutics of the Leucodescent on a scientific basis.

The Canadian Journal of Medicine and Surgery

J. J. CASSIDY, M.D.,

Editor.

43 BLOOR STREET EAST, TORONTO.

W. A. YOUNG, M.D., L.R.C.P. Lond.

MANAGING EDITOR.

145 COLLEGE STREET, TORONTO.

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Dermatologic—D. KING SMITH, M.B., Tor., Toronto.

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Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited. Contributors must kindly remember that all papers, reports, correspondence, etc., must be in our hands by the first of the month previous to publication.

Advertisements to insure insertion in the issue of any month, should be sent not later than the fifth of the preceding month. London, Eng. Rep. sent to W. Ham Pen Man. Planet Press, 231 Strand, W.C. Agents for Germany, Schaefer's News-Exchange, Mann, Germany.

VOL. XX.

TORONTO, SEPTEMBER, 1906.

NO. 3.

Editorials.

SEVENTY-FOURTH ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION AT TORONTO.

THE seventy-fourth annual meeting of the British Medical Association, at Toronto, August 21-25, 1906, deserves a high place in the annals of that association. It was an exceptionally hot meeting. The derivative effects of solar heat, supplemented by

a moist atmosphere, were felt by host and guest alike, yet, happily, without any marked evil effects, so far as we could learn.

The association was magnificently housed, since all the buildings of the University of Toronto were placed at its disposal, and the attendance, which reached 2,200, was amply provided for at general and special meetings. Our British brethren, in spite of personal discomfort, rose manfully to the task and did their work in good style. The meetings in most of the sections were largely attended, the discussions were often full and instructive, the chairmen of sections were models of promptitude and skillful discernment—in short, the machinery of the great medical congress worked quite unlaboriously.

Many American physicians were present, joining in the discussions and, in some instances, reading papers. In fact, if it were not for different intonations of the human voice a bystander might say,—“This English-speaking race doth bestride the world, like a colossus. Talk of Esperanto being necessary at a medical congress. The English tongue suffices, for a meeting, representing some of the best men in the United Kingdom, the United States, West India Islands, Canada, Australia, South Africa, and British India.” And that reminds one, that our French-Canadian medical brethren, of Quebec Province, do not attend English-speaking medical congresses. They were conspicuous by their absence from the Toronto meeting; but then, *que voulez vous?* One medical congress a year is a good deal, and they had a congress of the French-speaking physicians of North America at Three Rivers last June.

The inaugural ceremony of the meeting in the new Convocation Hall of the University of Toronto was a brilliant function. Seated around Dr. R. A. Reeve, the new President, were men who have achieved distinction in different branches of the profession, and some whose names are household words throughout the world of medicine and surgery. Dr. Reeve's inaugural address was a scholarly review of the progress of medicine and surgery for the past decade, of the advances made in the past and the hopes of still further advances entertained for the future.

Among the more notable visitors from a distance present at this meeting were Dr. Franklin, Leicester, President in 1905; Sir Thomas Barlow, London.

Vice-Presidents—Dr. Henry Barnes, President at Carlisle, 1896; Dr. T. G. Roddick, President at Montreal, 1897; Dr. T. D. Griffith, President at Swansea, 1903.

Representatives from the Council of the Association—Dr. D. Goyden, Bradford; Dr. J. Groves, Carisbrooke; Dr. James Hamilton, Glasgow; Dr. T. A. Helme, Manchester; Sir Victor Horsley, F.R.S., London; Dr. J. A. Macdonald, Taunton; Dr. C. G. D. Mosier, London; Dr. C. R. Straton, F.R.C.S., Salisbury; Dr. J. Lynn Thomas, Cardiff; Dr. W. J. Tyson, Folkestone; Dr. Norman Walker, Edinburgh; Dr. Sinclair White, F.R.C.S., Sheffield; Dr. D. J. Williams, Llanelly.

Delegates from Representative Meetings—Dr. William Ewart, London; Sir Victor Horsley, London; Dr. S. Boyd Joll, London; Dr. R. L. Langdon Down, London; Dr. J. A. Macdonald, Taunton; Dr. C. R. Straton, Salisbury; Dr. D. J. Williams, Llanelly.

Delegates from Branches of B. M. A.—Leicester—Dr. Thos. Donnelly, Dublin; Dr. O. C. J. Delahoyde, Dublin. Metropolitan—Dr. F. J. Smith, London. Midland—Dr. C. J. Bond, Leicester; Dr. Ashley V. Clarke, Leicester. Edinburgh—Dr. Logan Turner, Edinburgh.

Delegates from Universities and Colleges—Glasgow—Sir Hector Clare Cameron, Prof. John Glaister. Sheffield—Dr. Sinclair White. King's College—Prof. Halliburton, Dr. G. F. Still. St. Andrew's—Dr. Dow, Royal College of Physicians. Edinburgh—Dr. G. A. Gibson. University of Liverpool—Sir James Barr, Prof. Sherrington. Cambridge University—Prof. Clifford Allbutt; Dr. Donald MacAlister. University of Durham College of Medicine—G. Grey Turner, F.R.C.S. London University—Dr. Rose Bradford. Bristol Medico-Chirurgical Society—Dr. Watson Williams. Medical officers of health societies—Dr. Samuel Browne, Warwick.

American Delegates—President American Medical Association, Dr. W. J. Mayo. American Medico-Psychological Association, Dr. Geo. Ross, Richmond, Va.

American Medical Association—Dr. A. E. Macdonald, New York; Dr. C. W. McOscar, and Dr. K. K. Wheelack, Fort Wayne, Ind. Department of Public Health and Marine Service—Dr. R. Woodward.

Delegates from Colonial Branches—Bermuda—Lieut.-Col. Rainsford, Dr. Eldon Harvey. Halifax—Dr. John Stewart, Dr. Geo. M. Campbell. Griqualand West, Dr. Jane Ruthven, Johannesburg. Melbourne—A. Grant, M.B., C.M., Melbourne, Australia. Montreal—Dr. T. G. Roddick. New Zealand—Dr. Davis. South Australia—Dr. C. T. Drummond, Morier. South India and Madras—Dr. C. B. Rama, Rao, Madras; Dr. Barabi, Bombay. Saskatchewan—Dr. Low, Dr. McLeod, Dr. Thomson. Dr. Hughes, Winnipeg.

The following visitors from the continent of Europe were also received: Prof. Aschoff, Freiburg, Germany; Dr. Delezenne, Paris; Prof. Delsaux, Brussels; Dr. Lapieque, Paris; Dr. Nieloux, Paris; Dr. Nicolle, Paris; Prof. Justice Gaule, Zurich.

Nearly 2,200 medical men and women were present at the meetings, a remarkable attendance when one considers the distance which many of them travelled. The next annual meeting will be held at Exeter, England, and Henry Davy, M.D., M.B., F.R.C.S., London, physician to the London and Exeter Hospital, will be the next President. Between sixty and seventy meetings were held in connection with the congress, and several records as to attendance were broken. The surgical and medical sections had the best attendance, the surgical section taking the lead in this particular, its last two meetings having been attended by upwards of 500 members.

The social side of the meeting left nothing to wish for. A garden party was given by His Honor Lieutenant-Governor and Mrs. Clark, at Government House, on Tuesday, August 21st; in the evening of the same day a reception was given by the President and Mrs. Reeve in the University Quadrangle. On Wednesday, August 22nd, there was a luncheon for visiting ladies at Lambton Golf Club, also a garden party, University Women's Club, at Amesley Hall, for lady physicians and ladies accompanying members; also a garden party by H. C. Cox, Esq., and Mrs. Cox; a reception at the Toronto General Hospital and a reception by His Worship the Mayor and City Council of Toronto, at the City Hall.

On Thursday, August 22nd, there was a ladies' excursion to Niagara Falls; a luncheon at R.C.Y.C., by the Empire Club

(Limited); a luncheon by the Dominion Alliance (Ontario Branch); also

International golf matches at Toronto and Lambton Golf Links.

The Annual Dinner was also held in the evening of this day, and a band concert and promenade was given in the Dean's Garden, University.

On Friday, August 24th, there was a luncheon for visiting ladies at the Toronto Hunt Club; a garden party by E. B. Osler, Esq., M.P., and Mrs. Osler, and a reception by the Royal Canadian Yacht Club, at the Island.

On Saturday, August 25th, there was an excursion to the Niagara Power Company's Works (limited to 300); an excursion to Muskoka Lakes (limited to 300); an excursion to Ontario Agricultural College, Guelph. A very elegant and enjoyable garden party was also given on the afternoon of Thursday, August 23rd, by Dr. H. A. Bruce, in honor of his guests, Sir Victor Horsley and Lady Horsley. One of the most interesting, instructive and valuable features of the meeting was the Museum of Exhibits of Foods and Drugs, Prepared Foods, Chemical and Pharmaceutical Preparations, Medical and Surgical Instruments, Antiseptic Dressings and Appliances, Books, Diagrams, Charts, etc., Sanitary and Ambulance Appliances. This exhibition was held on the first floor, Main Building, University of Toronto.

The members of the Toronto Branch of the B. M. A. have good reasons to feel gratified at the outcome of their efforts to make the seventy-fourth meeting of the Association a great success. Any difficulties encountered—and there are always difficulties in great undertakings—were overcome. Now that the meeting has taken place, everyone is pleased, for nothing succeeds like success.

The moral effect of such a congress is good for the physician himself. The frequent meetings and discussions throw his chariot from its quiet ruts, force him into the arena, make him sometimes a speaker, or, at least, a listener to the living voice, instead of a mere reader of medical literature.

Such a congress draws together and weaves around men ties of sympathy and friendship, shows the nobler objects physicians should strive for, exposes quackery and mis-dealing, opens the eyes

of the wondering public, showing that modern medicine is indeed a fruitful garden, in which the very rootlets of human progress and national safety are nourished, in which so rare a plant as high achievement may bud and grow to perfection, in which way-worn men may find rest and refreshment—a not unwelcome field of labor for those who cultivate it for a living, an ever-recurring scene of bounteous harvests for the benefit of suffering humanity.

J. J. C.

A FEW HOURS WITH THE BRITISH MEDICAL.

“ Daughter in my mother’s house,
But mistress in my own,”

and, as such, Canada welcomed the members of the British Medical Association, and a warm welcome it was to the two thousand physicians who registered. Little time, though, was lost in discussing the weather, for a certain sense of duty, or was it enthusiasm, kept the men busy at the various sessions, and then off they rushed to the many entertainments arranged for their diversion, and every moment seemed occupied. To many Canadian doctors it was the privilege of a life-time to meet, greet, and listen to the papers read by the elect men of the profession whose achievements (in their chosen field of labor) have gained for them world-wide fame. To some it was the joy of a renewal of an acquaintance formed years ago, when, as students, they sat at the feet of these men and hung on their words of wisdom. To others, perchance, it was even more of a pleasure, the country doctors out in the wilds of the new world cherishing a volume or a text-book, often taken down from the shelves of the unpretentious library, and here at this meeting to find its author and listen to him quietly voicing an unwritten chapter. As they meet, these great men and the country practitioners another lesson is learned, another link is forged in the endless chain of fraternity, and, as in the building of empire, so in the interests of our great medical science, the King and the pigmy must hold together, for, as a wise one has said, “ a chain is only as strong as its weakest link.”

What a pity it seems that there should be a “ British Medical

Association," an "American Medical Association," a "Canadian Medical Association," etc., when all use the same means and have the same end in view. Study, Progress, Research, Fraternity, seem to be the means used and the object in view, then why not unity? Sir William Broadbent struck the right note and sounded a new name, "The Imperial Medical Association." We thank him, yet humbly ask, why not the compelling force of "The Medical Association of the World?"

As the British Medical Association met for the first session in Toronto on Tuesday, August 21st, it christened a new building, the child of the Dean, and justly proud of the occasion was Dr. Reeve, and he more than deserves the hearty congratulations which were heard on all sides as to his achievement. Very happily did the Honorary Secretary of the Association, Dr. F. N. G. Starr, present the Dean with a memento of the occasion, a gold locket, that bore between its clasps the first photo of Convocation Hall. Of course, the building would have been more admired by our guests had it been entirely finished within, and had its dais breathed the freshness of the cool greenery of palm and fern and the perfume of Canadian garden flowers. Unfinished, as the interior was, such embellishments would have been unsuitable, and so the flags, bunting and, not least, indeed, the striking tones of the uniforms of the military surgeons and the vari-tinted and multiform designs of the gowns worn by the men from far and near united in a wave of color that

Made a heat amid our hotness
That was feverish in its way.

If the opening processional on Tuesday afternoon was intended to be impressive, it rather missed the mark; it, however, succeeded in being spectacular and interesting. In that wonderful moving picture that filed into Convocation Hall, some lived and walked their part, others evidently hastily donned the regalia of rank or office, but a fragment of tennis flannels peeping out or a pair of colored shoes sang a ragtime tune that spoiled the extreme dignity of the measure to which ceremonial march music is usually set.

It is not within the province of this hurried screed to cull from

speeches or quote statistics. Such are dealt with at all the length possible in another part of this issue.

The exhibit museum was a constant source of interest, and it speaks much for the advancement in pharmaceutical preparations that everywhere manifested itself in an artistic arrangement and a studied touch of color without the slightest garishness prevailed. Glancing up and down the aisles the effect was very harmonious. Side by side examining and admiring were seen medical men from India, France, Germany, United States and England, and better equipped surgeries and medicine chests more temptingly filled are sure to be a happy result of the hour spent in the Museum.

Socially, the meeting seemed to be a great success. A very active Ladies' Committee arranged for the visiting ladies a programme on successive mornings. A drive around the city, luncheons at the Lambton Country and Golf Club, the Toronto Golf Club, and the Toronto Hunt Club, and a large number responded to each invitation. Only once did the glorious summer weather fail; on the day of the garden parties at Mr. and Mrs. Herbert Cox's beautiful residence, the grounds of the Toronto General Hospital, and Amesley Hall, unfortunately severe thunder showers prevented a large attendance at any of the three places.

The Lieutenant-Governor and Mrs. Clarke, with their usual thoughtfulness, shortened their holiday and returned to town to extend their hospitality during the meeting, their large garden party was an unclouded success.

Dr. and Mrs. Reeve entertained on the opening evening at a reception and fete in the University Quadrangle. So beautiful and still the night and so prettily lighted the gardens, the enjoyment of the moment was heightened to many present by the memory of a very similar meeting in New Orleans awhile ago, when the President of the American Medical Association tendered a fete champêtre in gardens fringed with live oaks and magnolia trees to the members of the American Medical Association. As many of the same prominent and genial physicians there met (from Richmond, Va.; Cincinnati; Fort Wayne, Ind.; Chicago and New York), were again greeted under Canadian skies and the

old maple trees of the Dean's garden, and the Kilties' Band played "Annie Laurie," with variations, it seemed, indeed, good to be a guest of Dr. and Mrs. Reeve.

A reception at the City Hall, where Mayor and Mrs. Coatsworth sent a smile and kindly word home with each delegate, and many a delightful afternoon tea and small dinner gave the Torontonians a chance for a passing word with some one of the strangers.

Mr. and Mrs. E. B. Osler sent out invitations to a large garden party, and every one regretted the absence of their relative and expected guest, Dr. William Osler, of Oxford.

It was a pleasure to the entire profession to have, as Dr. Herbert Bruce's guest, Sir Victor Horsley. Toronto's brilliant young surgeon entertained constantly during the week of the meeting and his quiet and elegantly-appointed home truly had its door unlocked and the latch string on the outside. Dr. Bruce's garden party, by private invitation to meet his guests, was one of the most appreciated leisure hours during the convention.

But the old clock up in the University kept ticking out the hours, and, all too soon, Friday night, with its crush reception at the Yacht Club, and Saturday, with its many departures—"off to the Rockies"—was a frequent adieu. To many of the island cottages up in Muskoka a number went as guests for the week-end. There remained, however, to those who waited for the Saturday trip to Niagara Falls, the best of the wine for the last of the feast. A cloudless day, a view of the immense new power-house, inside the works a dip down in the "bucket" (it held ten at a time), down it went two hundred and ten feet, a wonderful sight of what man can do in tunnelling, then a slight baptism (all creeds alike), and up again to the light of day, with a clearer understanding of how those huge turbine wheels are going to be made go round.

A good luncheon at the new Clifton House, at which Sir Henry Pellatt (that man of affairs, of war, and of the gracious hospitality to all who pay our city a visit), was the generous host; afterwards, also by the courtesy of Sir Henry, a trolley ride down the Canadian and up the American side of the river. As going to the train, some of the party turned for a last look at the Niagara of

the World, the thought of its wonderful value in the world of commerce, then a feeling of the grandeur, the turmoil, the fascination and awfulness of the great cataract and then, just as if it appreciated something of greater beauty, it insists on throwing a kiss to the sun and back comes the message of promise in all the color glow of a rainbow. And so, with the wish of a bright to-morrow for the next meeting of the British Medical Association,

“Our only ‘Farewell’ we shall laugh
To shifting cloud or hour.” —

August 26th.

W. A. Y.

PERSONALS.

DR. PETERS, F.R.C.S., will resume his usual consultation and operative work upon his return, September 1st, 1906.

It gives us pleasure to announce that Dr. Perry G. Goldsmith, who recently moved from Belleville and is now settled in his new home, No. 84 Carlton Street, which he purchased, has taken charge of our department, "Nose, Throat and Ear," and will contribute to the same from time to time. Dr. Goldsmith has for years enjoyed a lucrative practice in Belleville, but was advised to remove to Toronto, where he could find greater scope for his abilities.

DR. W. H. HARVEY, graduate, Toronto University, 1904, has been awarded a British Medical Association Scholarship, amounting to £150. The scholarship is tenable for one year; but, if the work warrants it, the scholarship is tenable for two succeeding years. Dr. Harvey was research student in the Pathological Department University of Toronto for one and a half years after his graduation, and has recently published the results of his work in Toronto in a paper in the *Journal of Experimental Medicine* upon "The Degeneration of Elastic Tissue in the Aortic Wall." Dr. Harvey is now working in Cambridge.

Messrs. W. B. Saunders Company announce for publication in the early Fall the following excellent and practical works: Keen's Surgery: Its Principles and Practice (Vol. I.) Sobotta and McMurrich's Human Anatomy (Vol. III.) Webster's Text-Book of Gynecology. Hill's Histology and Organography. McConnell's Pathology. Morrow's Immediate Care of the Injured. Stevenson's Protoscopy (Retinoscopy and Skiascopy.) Preiswerk and Warren's Atlas of Dentistry. Goepf's State Board Questions and Answers. Lusk's Elements of Nutrition. The most notable announcement is the new book on Surgery, edited by Dr. W. W. Keen, complete in five octavo volumes, and containing over 1,500 original illustrations. The entire work is written by the leaders of modern surgery, men whose names are inseparably associated with the subjects upon which they have written. Without question, Keen's Surgery will represent the best surgical practice of to-day.

❖ *News of the Month.* ❖

International Exhibition of Hygiene.—Burroughs Wellcome & Co. have followed up their successes at St. Louis and Liège by obtaining a gold medal at the International Exhibition of Hygiene held during the months of May, June and July at the Rotunda in the Royal Prater, Vienna.

The Ethical Presentation of Phenalgin.—The reputation of Phenalgin as a reliable Antipyretic, Hypnotic and Analgesic has not been in the least disturbed by the remarks so widely published regarding proprietaries. This product is advertised only to the medical profession, and is not dispensed except upon a prescription from a regularly qualified medical practitioner. Its constant increasing sales is an evidence of its therapeutic value as well as an appreciation of the ethical method of its introduction.

Canadian Medical Exchange.—Canadians desiring to dispose of their practices will secure an easy way of doing so with a minimum amount of publicity, by taking advantage of the Canadian Medical Exchange, conducted by Dr. W. E. Hamill, 75 Yonge Street. He has been conducting this important department of medical affairs for twelve years, and the great majority of medical sales have passed through his hands during that time to the entire satisfaction of vendor and vendee. A partial list of his offers will be found among our advertising columns in each issue of this journal, the complexion of which, of course, changes from month to month.

Ontario Medical Association.—26th Annual Meeting.—In accordance with the vote of the Association, as determined at its last meeting, the session this year was of a purely business nature. There was no programme presented to its members, as the whole effort of the Association along that line was directed to further the work of the British Medical Association, which opened its sessions the next day. The meeting was held on Monday evening, August 20th, at 8 o'clock, in the new Science Building of the University of Toronto, College Street, head of McCaul Street. The officers presiding were : George A. Bingham, President ; Charles P. Lusk, General Secretary ; Samuel Johnston, Assistant Secretary ; D. J. Gibb Wishart was Chairman of Committee on Papers and Business, and H. J. Hamilton, Chairman of Committee on Arrangements. The meeting was not attended as it should have been and this is to be regretted, as Dr. Lusk, especially, used every effort to enlist interest in the meeting of 1906.

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VOL. XX.

TORONTO, OCTOBER, 1906.

NO 4.

Original Contributions.

ADDRESS IN MEDICINE.*

BY SIR JAMES BAER, M.D., F.R.C.P., F.R.S.E.

Senior Physician to the Liverpool Royal Infirmary; Lecturer on Clinical Medicine, Liverpool University; Medical Visitor, Tuebrook Asylum; Visiting Physician, Haydock Lodge Asylum; Examiner in Medicine, Glasgow University.

THE CIRCULATION VIEWED FROM THE PERIPHERY.

Mr. President, Ladies and Gentlemen.—In the first place I must thank you, and through you the whole British Medical Association for the high honor which has been conferred on me in my appointment to deliver this address. This is an honor and a privilege which happens to very few men, and that only once in a lifetime. I feel the dignity of the office and the obligations which it entails all the more deeply inasmuch as the invitation in the first place came from the members of the Association resident in this city. When the invitation was conveyed to me I rather hesitated to undertake a task which I felt I could only inadequately perform, but, on the other hand, I looked upon the request as a command, and it seemed to me that I could scarcely refuse to undertake a duty for which I had been selected by my Canadian brethren.

After accepting the task my difficulties began, and my first was in choosing a subject which would have a more or less general interest. The whole domain of medicine has been traversed by addresses, and it appeared as if there was no corner left for me. I could find nothing new under the sun, but there was still left to me the privilege of talking of the glories of the past, and what medicine has done for humanity. Again, I found that any attempt at a hackneyed survey of the advances of physic, say during the Victorian era, would

*Delivered at the Seventy-fourth Annual Meeting of the British Medical Association, Toronto, August 21-25, 1906.

be merely clothing in my own language facts with which you are all familiar, and in the advancement of which many of you have taken an important part. I further found that standing on the high pedestal on which you have placed me, I was, to a certain extent, placed above criticism, and therefore could not fairly deal with polemics.

It finally occurred to me that I might find some devious path or unbeaten track in the vast field of medicine which I might pursue with some measure of success. I intuitively turned my attention to the circulation, the ramifications of which pervade the whole field, and as writers hitherto on this subject have almost invariably traced the circulation from the centre to the periphery, it occurred to me that we might get a fresh view if we turned our attention in the opposite direction. There are numerous treatises on diseases of the heart and aorta, but until recent years a careful study of the peripheral circulation has been largely left to physiologists and pathologists. The experimental work of Cohnheim will ever remain a landmark in the pathology of the circulation, while to the school of Ludwig physiologists are no less indebted. To physiology medicine owes much, and all great advances are being prosecuted along physiological lines. If there have been any apparent divorce between the scientific basis and the practical application of our art, it is not due to any too rapid advance of physiology, but to physicians being too slow to fructify the field which has been tilled by physiologists. I have previously asserted that diseases of the heart most frequently arise from causes acting on the periphery, and hence there is here no room for specialism. The man who only studies the circulation with the aid of a stethoscope is a positive danger to society. I can, therefore, with an easy conscience and a sense of much satisfaction, devote some attention to that periphery.

The capillaries through which the interchange of nutritive pabulum and gases takes place between the blood and tissues, play a most important rôle in the animal economy. Yet they have received very inadequate attention from clinicians. Perhaps it has been thought that their structure and position could be so briefly described that any circumlocution in their description was unnecessary. But however simple their structure, and however apparent their functions, they constitute a vast filter bed for conveying nutritive material and oxygen to the tissues and for removing waste products therefrom. A careful study of how these changes take place, and how the functions of these little tubes are carried on, has always seemed to me a matter of as much importance as even the action of the heart itself. These little vessels are of extreme tenuity and delicacy, consisting of a single layer of endothelium, yet they are much stronger than most people imagine, and are capable of standing considerable internal pressure; they vary from about 0.5 to 1 millimetre in length, and from 7 to 13 micro-millimetres in diameter.

They are to a certain extent elastic, or at least they have the capacity of adapting themselves to the amount of blood which is driven through them. Their importance has been aptly described by Leonard Hill, who says: "The blood is brought into intimate relation with the tissues by diffusing through the endothelial wall of the capillaries, and this wall is of great tenuity; thereby takes place that change of material which maintains the combustion of the body and the fire of life."

The capillary bed is a vast territory which pervades every tissue and organ of the body, and so numerous are these little vessels that it would be difficult to stick the point of a needle in any vascular area without wounding one or more, but in neurotic individuals you may wound many such vessels without drawing blood. In very plethoric individuals and in cases of polycythaemia, the capillaries of the body are fairly replete, but in ordinary mortals, especially in those of neurotic temperament, perhaps not a third of the capillaries are full at any one moment. Apply a sinapism to a very pallid skin, and you may wonder where all the turgid capillaries have sprung from. From the fact that under normal circumstances a sufficient quantity of blood cannot get through the arterioles to keep the enormous capillary bed full, the lateral pressure and the velocity in the capillaries are ever-varying quantities. When Leonard Hill stated that the pressure in the capillaries under certain conditions is often over 100 mm. of mercury, I thought that there must be some error of observation, as I was under the impression that such pressure would rupture these delicate little vessels, but I remembered the old advice: Do not think; try. I tried, and found that Leonard Hill had rather understated the fact, as I found variations from about 50 to 2,000 mm. of water. I also found equally great variations in the velocity of the blood in the capillaries. In text-books on physiology it is put down from 0.2 to 0.75 mm. per second; but my observations have given records from about 0.5 to 25 mm. per second. The capillary bed covers an enormous area; take, for example, the lungs, where all the air vesicles are surrounded by a meshwork of capillaries, and the surface of the air vesicles in the average individual has been calculated by Zuntz at 90 square metres. Numerous attempts have been made to estimate the capacity and sectional area of the capillaries, but in my opinion these questions are still unsolved. The method adopted of estimating the sectional area of the systematic capillaries is simplicity itself. We all know that with any given force the velocity is inversely as the sectional area. The mean velocity in the aorta has been set down as 320 mm., and in the capillaries as 0.5 mm. in the second; therefore, on this basis of calculation the sectional area of the systematic capillaries would be 640 times that of the aorta. It is not difficult to show that the premises are wrong, so it is highly improbable that the conclusion can be right. It at once becomes absurd if

we consider how this calculation would work out for capacity; if we reckon the average length of a capillary as 0.75 mm., and the length of the aorta as 480 mm., accordingly the aorta should hold as much as all the systematic capillaries. From the effective mean lateral pressure in the arteries it is difficult to draw any conclusion as to the velocity in the aorta, because the force imparted to the blood in the aorta by the heart is an ever-varying compound of kinetic and potential energy. Even if you did arrive at any fairly accurate idea as to the mean velocity in the aorta, it would not be correct to draw any inferences from a comparison between the velocity of the blood in the aorta and in the capillaries, because the conditions determining the velocities in the two sets of vessels are not comparable. The higher the potential in the arteries the greater the velocity in the capillaries, but as this arterial potential is induced by obstruction to the outflow the velocity in the arteries will be diminished. As Leonard Hill appropriately says: "The circulation of the blood follows certain definite laws; unfortunately, the conditions of the flow are so complicated that these laws remain for the most part undetermined. A viscous fluid driven by an intermittent pump, which circulates through a system of branching elastic tubes of varying capacity; a system of tubes into and out of which passage of fluid takes place either by osmosis, filtration, or secretion; a fluid which varies in viscosity, a pump which varies in force, and tubes which have an ever-changing diameter and co-efficient of elasticity."

In a paper on tubal nephritis published in 1883, and in one on the pathology and treatment of dropsy in 1886, I dealt with the capillary circulation. I have long been in the habit of estimating the velocity by compressing the blood out of the capillaries in a given area and then watching the quickness or velocity of the return. This has served, and still serves, my purpose, but when I wish to record my observations I use a glass rod 10 millimetres in diameter. With the flat end of this rod I compress the capillaries, and then with a stop-watch recording fifths of a second I time the period of the return of the blood. If you divide the radius of this rod (5 millimetres) by the time, you get the velocity per second. For these observations you must select some spot where there is a network of capillaries which you can completely empty, such as those in the back of the hand or finger, and you must also choose a spot where the return current flows from all parts of the circumference. This method is so simple and accurate that it is a matter of surprise to me that, so far as I know, it has never been thought of before.*

Dr. George Oliver has drawn my attention to a capillary dynamometer devised by Dr. Alexander Haig for gauging the amount of uric acid in the circulation and estimating the blood pressure. Dr. Haig compresses the blood out of the capillaries under pressures varying from about 5 to 20 oz., and times the periods of compression and of the capillary reflex. Dr. Haig says that his instrument gives a constant definite area of pressure—a definite and measurable force, the pressure being applied for a definite and constant time, measured

When fluid is circulating in a capillary tube, the axial velocity is double the mean velocity. Now, the erythrocytes travel in the axis, but as they occupy at least four-fifths of the lumen of the vessel, the mean must be fully 0.8 of the observed velocity. For estimating the pressure in the capillaries I use a modification of v. Kries's apparatus. For applying the pressure I use three sizes of glass plates measuring 20, 100 and 400 sq. mm., so a gram pressure on each of these plates represents respectively 50, 10, and 2.5 mm. of H₂O. As before stated, I have recorded capillary pressures varying from 50 to 2,000 mm. of water; and my velocity records have ranged from about 0.5 mm. to over 25 mm. per second. Any one with a capillary velocity at the level of the heart which physiologists set down as normal might appropriately take up the refrain, "The hour of my departure's come."

The study of the lateral pressure and velocity of the blood in the capillaries is an exceedingly interesting one. A combination of these two forces represents the energy of the blood in the capillaries, and no doubt this energy is derived from the heart, and stands in direct relationship to the force of the cardiac contraction; the greater the force of the cardiac output the greater will be the energy in the capillaries, but the component elements of this energy—lateral pressure and velocity—need not bear any direct relationship to those respective elements in the arteries. These two conditions (velocity and pressure) might be said to stand, within certain limits, in an inverse ratio to one another, the more rapid the flow the less the lateral pressure, and vice versa. The lateral pressure depends on the statical condition of the blood, and just in proportion as you introduce movement you convert the force of pressure into that of velocity.

If you wish to drive a certain quantity of fluid through a tube, the velocity will depend on the force of the propulsion minus the obstruction to the outflow, with the inertia or viscosity of the fluid (there is no fluid perfectly mobile) and the friction of the tube; and the lateral pressure will increase as the outflow is obstructed—in short, as the statical condition is maintained. The vis viva or energy of the blood in the capillaries can be represented, as in any other vessel, by the formula $\frac{MV^2}{2}$. The component forces of this energy—pressure and velocity—are constantly varying, so, for the sake of clearness, it will perhaps be better to describe them separately.

The pressure stands in direct relation to the freedom of the in-
by a metronome beating half seconds, the length of time the blood and color take to return being measured by the same instrument." Our methods are similar, but our objects are different. At one time I thought of drawing up rules for estimating the arterial blood pressure by the capillary velocity, but I soon found that the necessary corrections on account of the contraction or dilation of the arterioles, the position and temperature of the part under examination, and perhaps the viscosity of the blood were so numerous as to materially lessen the clinical value of any such method.

flow and the obstruction to the outflow. For example, take a very cold hand: the arterioles and small arteries may be so contracted that the mass of blood supplied to the capillaries is greatly diminished, and the lateral pressure correspondingly falls. Even in the arterioles there may be such a drop in the pressure-gradient that there may be a difference of 50 mm. of Hg between the lateral pressure in the digital artery and that in the radial. In cases of local syncope the lumen of the arterioles supplying the affected district is obliterated and the capillary pressure is reduced to nil. On the other hand, if you warm the hand, or take a glass of whisky, which dilates the arterioles, the mass of blood in the capillaries is augmented and the pressure rises; and the fall in the pressure-gradient between the arteries and capillaries becomes more gradual. An increased obstruction in the arterioles over a wide tract, such as the splanchnic area, raises the general arterial pressure and lowers the capillary pressure in the area supplied by the contracted arterioles.

As Cohnheim long ago pointed out, if you obstruct the outflow by tying a ligature around the limb, you greatly raise the pressure in the veins and capillaries distal to the ligature, but as you cannot thus completely obstruct the venous return without at the same time obliterating the arterial supply, the pressure in the veins does not rise so high as that in the capillaries, and the pressure in the capillaries does not attain the level of that in the arteries, and, of course, that in the obstructed artery does not rise above the general arterial pressure at the same level. With any given energy in an artery the pressure and velocity in the capillaries supplied by that artery stand in an inverse ratio to one another: the greater the pressure the less the velocity.

I have corroborated v. Kries's observations as to the effects of gravity on the capillary pressure, and like him I have found that the increase is usually less than one-half the hydrostatic effect—for example, if you take the capillary pressure in the finger at the level of the vertex, and then take it when the finger is lowered, say 600 mm., the increase may be only 200 mm. of water in place of an increase of 600 mm. of blood which it would be in an artery. I have also found that the increase is not at all uniform. It may vary enormously in different individuals, and in the same individual under different conditions. It largely depends on the condition of the vasomotor mechanism of the part which you are examining. If the arterioles be contracted and the inflow to the capillaries be obstructed, the increase may not be a third of the hydrostatic pressure, but if the arterioles be much dilated the increase may be half or even two-thirds of the increase which has taken place in the artery. Leonard Hill has pointed out to me that this increase chiefly takes place when the limb is immobilized; and when active movements are going on the blood is compressed out of the capillaries and this

increase in the lateral pressure does not take place. There is, however, under these conditions, an increased hydrostatic pressure in the arteries, as Leonard Hill was among the first to demonstrate, and this must be expended in the arterioles and capillaries either in the form of increased pressure or augmented velocity, but more anon when we come to speak of the latter component of the increased energy.

I have shown that the capillary pressure in the foot even when immobilized is often less than that in the hand, and much less than that in a grog-blossomed nose. This is entirely due to the wonderful mechanism of the vasomotor system.

Some people are very liable to cold feet in bed, and such appendages to a lady seem to have led up to a divorce in the United States of America. In such cases the part may be fairly comfortable before going to bed, but once the horizontal posture is assumed the arterial pressure and capillary velocity fall, there is not a sufficient amount of fuel carried to the extremities to keep the large cooling surface warm. Here the defect is in the initial energy, and besides improving the general arterial pressure it would be advantageous to keep the feet much lower than the head and shoulders. Possibly if the lady had been under medical treatment she might have conserved her own comfort, preserved the affection of her husband (though she might not have thought the affection of the brute worth preserving), and saved the notoriety of the divorce court.

The velocity of the blood in the capillaries is, if possible, even more interesting than the pressure. It varies enormously in different individuals under different conditions. As I have before said, the range of my observations has been from less than 0.5 to 25 mm. per second. We shall now consider the conditions under which these variations occur. In the first place it depends chiefly on the potential in the arteries—the higher the arterial pressure the greater the velocity in the arterioles and capillaries. High arterial tension drives the blood through the arterioles and capillaries with great velocity, but certain little corrections have here to be borne in mind. If the arterioles of a small area, such as the hand, be contracted, the general arterial blood pressure is not affected; the blood travels in the direction of the least resistance, so the supply to the hand is diminished, and although the capillary pressure is diminished, the velocity is not increased—in fact, the diminished supply spread over a large capillary district should tend to lessen the velocity. The velocity in the capillaries is not comparable with that in the arteries, but with that in the arterioles; and as velocities are inversely as the cross sections, you could easily calculate the sectional area of the capillaries if you only knew the velocity of the blood in the arterioles and their sectional area.

When the arterioles are dilated in any area, as at the com-

mencement of an inflammation, the whole of the capillaries are opened up and engorged with blood, and with this increased mass the pressure is raised, but the velocity is also heightened owing to the arterial potential remaining high and the resistance in the enlarged capillaries being diminished. The resistance is inversely as the square of the cross sections, or the fourth power of the diameter, or directly as the square of the velocity. We have seen how hydrostatics affect the pressure in the capillaries, but the velocity is much more uniformly affected. It is usually sufficient to lower the hand 320 mm. in order to double the velocity, and in the capillaries of the foot the velocity is usually extremely rapid. Velocity, $V = \sqrt{2gh}$; but in the capillaries we have further to take into account the sectional area, which has not yet been accurately computed either in whole or part.

So readily is the capillary velocity affected by the arterial pressure that, *cæteris paribus*, you can easily detect a difference between the velocity in the back of the hand and in the fingers; when a warm hand is hanging the velocity in the finger is greater than in the back of the hand, and if the relative position of these parts be altered the velocities are reversed. I purposely said a warm hand, because in a cold hand the capillary circulation in the fingers is often very languid. After removal of an Esmarch's tourniquet the capillary velocity in the flushed extremity is considerably augmented.

Any obstruction to the outflow from the capillaries diminishes the velocity in them. The hydrostatic effect of the blood in the veins would materially obstruct the capillary flow only for the provision of valves, and the muscular compression hastens on the blood and thus diminishes the statical condition. However, certain capillaries, such as those of the liver and kidneys, are exposed to considerable backward pressure when from any cause the venous pressure is raised.

When the velocity in the capillaries is reduced to one millimetre or less per second the blood becomes surcharged with carbonic acid and the skin or organ supplied becomes of a dusky hue. This appearance immediately disappears if you increase the capillary velocity; for example, when the hand is blue and passively congested from cold, or the so-called local asphyxia, if you let it hang down you increase the velocity and you quickly see bright red spots intermingled with surrounding lividity, and soon the color of the whole hand improves. In the cold livid dependent hand the color of the fingers is better than that of the back of the hand. When you get cardiac failure, with or without any obstructive lung disease, you frequently see the upper part of the body and the hands quite dusky, while the legs and feet, which are at a lower level, may be pale. In one marked case of cardiac failure where the upper part of the body was livid, I saw one foot and

part of the leg in a state of local syncope and as pale as marble. These patients do not require a cylinder of oxygen, with which they are frequently plied, but the judicious application of a little common sense, such as the intravenous injection of small doses of adrenalin or some cardiac tonic. In cases of Raynaud's disease the local syncope is ascribed to vasomotor spasm, but really the epasm, if it exist, is a very mild affair. In these cases the arterioles shut down because there is not sufficient blood pressure to keep them open. The arterial pressure is always low, and the blood is deficient in lime salts and viscosity. In the cases of local asphyxia the arterioles are not closed, but the arterial potential is low, the velocity in the capillaries is defective, and the *vis viva* is not sufficient to drive on the blood stagnating in the veins. In cases of erythromelalgia the reverse happens: the velocity and pressure are both increased in the large engorged capillaries.

In many cases of pneumonia with low blood pressure, the vasomotor taps in the splanchnic area are all open, and the aorta is drained before it terminates in the iliac arteries; the bulk of the blood is retained in the chest and abdomen, and the quality supplied to the lower limbs is diminished. Moreover, the extremities are often colder than the body, and the arteries contracted. The lower level of the limbs increases the velocity in the capillaries and veins, and consequently the capillaries of the foot and leg are often blanched and the veins comparatively empty when the upper part of the body appears congested and purple.

VISCOSITY OF THE BLOOD.

The viscosity varies greatly, and is no doubt the great cause of resistance in the capillaries. Normally it is about five times that of distilled water, and my friend, Dr. John H. Watson, who has recently been doing some valuable work on this subject in association with a physicist, Dr. A. du Pre Denning, has found that in many diseases the viscosity is nine or ten times that of distilled water. The coefficient of viscosity in the tarry blood of Asiatic cholera is often so great that it will not pass through the capillaries. Dr. Graham Brown and others have found that a rise in temperature lessens the viscosity, and hence a febrile temperature lessens the resistance and so diminishes the work of the heart, but it does not follow from this that a high temperature in fever is an advantage, as there are many more efficient ways of lessening the viscosity. As the velocity diminishes the blood becomes more charged with CO_2 , which enlarges the red corpuscles and further increases the viscosity. Drs. Watson and Denning have devised a very convenient capillary viscosimeter, which shows these variations in this physical property of the blood. They conclude that the chief resistance to the flow is due to the viscosity, and occurs

in the capillaries. It has long been a disputed point as to whether the resistance to the arterial flow, and consequently to the heart, is situated in the capillaries or arterioles.

Sir W. H. Broadbent, I believe, even now throws the weight of his deservedly great name in favor of the resistance being in the capillaries; and in cases of vasomotor paralysis no doubt such is the case, but in ordinary circumstances I agree with the majority that there is an earlier barrier to the outflow from the heart in the arterioles and small arteries which are governed by vasomotor nerves. This can be readily proven by the fact that there is very little fall in the pressure-gradient from the large to the small arteries. The pressure in the radial and tibial at the same levels is as great as that in the branchial and femoral. When you come to the very small arteries and arterioles which are offering resistance to the flow there is a very great fall in the pressure and an increased velocity. As I have before said, the fall between the radial and digital artery may be as much as 50 mm. of mercury, and there may be an even greater fall in the pressure-gradient between this and the capillaries. Now, if the capillaries formed the first line of resistance the fall in the pressure-gradient would be much more gradual, and high arterial pressure would be associated with high capillary pressure, but we know the reverse to be the case.

It is extremely fortunate that there is this first line of defence created by the action of the vasomotor nerves in the small arteries and arterioles, because if this were wanting, as at present constituted we should either have to go about on all-fours or constantly run the risk of fatal syncope. Moreover, the blood would gravitate into the most dependent parts, the cooling surface would be enormous, the capillary velocity would be diminished, the blood would become surcharged with CO_2 , and we would become cold-blooded animals. When the vasomotor nerves of a rabbit are paralyzed it appears all right until you suspend it by the ears, and then it immediately dies. The arteriolar resistance saves us from such risks.

In cases of vasomotor paralysis the arteriolar resistance to the cardiac outflow is transferred to the capillaries, and then the fall in the pressure-gradient becomes more gradual. In a case of Landry's paralysis I have seen within half an hour of death the diastolic pressure 146 mm. of Hg, and the systolic 190 mm. of Hg in the branchial artery at the heart level, and when the arm was raised 220 mm. the diastolic pressure fell to 130 mm. and the systolic to 174 mm. of mercury. The capillary velocity in the hand at heart level was 0.83 mm. in the second. The hand was perfectly livid, but when it was lowered over the edge of the bed 650 mm. the velocity increased to 1.67 mm. in the second, and the color improved; thus proving that the resistance

was not a question of viscosity, but gradual failure in the driving power to overcome the total resistance. The venous pressure was low as well as the capillary, showing that the heart was rapidly failing (though doing its utmost) and had not sufficient energy to overcome the capillary resistance. By this wonderful vaso-motor mechanism a large amount of the cardiac energy is stored up in the arteries as potential, and is converted into kinetic energy in the arterioles and capillaries.

In the second line of resistance there is a greater transformation of energy. If there be very little resistance in the veins a large proportion of the kinetic energy is carried right through to them, but as far as the resistance to the outflow has to be overcome the velocity is converted into pressure. There is considerable waste or rather transformation of energy in overcoming resistance and in producing filtration pressure. In these small tubes there is an enormous amount of surface friction. The resistance is directly as the length of the tube and inversely as the square of the sectional area; directly as the square of the velocity and inversely as the fourth power of the diameter. It also varies directly as the viscosity. The extravascular pressure is about one-fourth of the capillary pressure from which it is derived and is an important force in carrying on the lymph circulation.

The viscosity is an important element in the resistance; we have already seen how it is increased by CO_2 , and diminished by heat. The work of Professor A. E. Wright has shown that it is increased by the salts of calcium, magnesium, and strontium, and diminished by decalcifying agents such as citric acid and the salts of potassium, ammonium, and sodium.

We have already referred to the viscosity in connection with the resistance in the tubes or the surface friction, but the mobility of the fluid or the surface friction of the molecules of the fluid against one another increases the resistance. The force of the heart is used up in propelling on the blood, and of course the mere weight of the blood and the viscosity must use up a great part of this force. The blood is a very viscous fluid and its viscosity is much increased by an excess of corpuscles.

Dr. John H. Watson and Dr. Denning found that the viscosity is much diminished by a rise of temperature; and that an increase in the corpuscles invariably causes an increase in the viscosity, and in the tubes of small bore this increase produces a most definite rise in the internal resistance, increasing more and more markedly as the diameter diminishes.

My former house-physician, Dr. R. J. Ewart, who has done some excellent work on the viscosity of the blood, has shown that here the law of Poiseuille does not hold good in tubes of very small diameter, because the increase is much greater than the inverse ratio of the fourth power of the diameter.

Drs. Watson and Denning have shown that, "With a given number of corpuscles present in the blood, the rate of flow through any particular tube down to 0.3 mm. in diameter may be considered directly proportional to the pressure. A given increase of pressure exerts a much greater accelerating effect on the rate of flow through tubes of fine calibre than through tubes of wide bore." This corroborates my own observations on the effects of arterial pressure on capillary velocity.

Burton-Opitz, quoted by Watson, has found the viscosity increased by nitrogenous diet and by alcohol. Watson has found the viscosity diminished in chlorosis, but this must be more than counterbalanced by the great increase in the plasma and the total increase in the corpuscles, which Lorrain Smith has shown to exist in this disease. The viscosity is diminished, but the total weight of the fluid to be driven is enormously increased, consequently the heart hypertrophies.

In polycythaemia, as Professor Osler has said, "It is especially important to test the viscosity of the blood by accurate physical methods, and to determine the relation of the number of corpuscles to the viscosity." This has been done by Watson and by Parkes Weber, and they have found that viscosity may be more than doubled, and is in direct proportion to the number of corpuscles.

Burton-Opitz, Fano and Rossi found that thyroid secretion lessens the viscosity. Watson concludes his observations in the statement: "The influence, therefore, of the viscosity of the blood is not an independent but a dependent variable whereby its effect upon the work of the heart may be diminished or increased."

There can be no doubt that the viscosity is an important element in determining the work of the heart; but, as a clinical factor, its importance can be easily overrated, as there are other simpler methods of determining the condition of the capillary circulation, and we must remember that the living capillaries are more or less elastic, and offer much less resistance to the flow of blood than would be caused by rigid tubes of the same calibre. On the other hand, the great variableness of the capillary pressure and velocity makes their interpretation often a matter of some difficulty.

THE INTERCHANGE OF MATERIAL THROUGH THE CAPILLARY WALLS.

There are some physiologists who would raise the endothelial cells of the capillary walls to the high level of secreting structures, not that they have any evidence, either from analogy or otherwise, in support of such a contention, but simply because they think that the physical properties of diffusion, osmosis, and filtration cannot account for the phenomena. They hold that the capillary pressure is low, and is more than counterbalanced by

the endosmotic equivalent of the albumen and salts in the blood. When they recognize the enormous variation which takes place in the pressure and velocity of the blood in the capillaries, they will have less difficulty in admitting the problem of filtration as applicable to the capillary circulation. Moreover, the capillary walls do not form a semi-permeable membrane, but are just as easily permeated, *cacteris paribus*, in one direction as in the other. In a network of capillaries the pressure must necessarily be higher in the efferent or distributing vessels connected with the arterioles than it is in the afferent or collecting tubules which unite to form the venules. You can thus have filtration and absorption going on side by side, just as in a hole in the wall divided by a midriff you can have strong currents of air flowing side by side in opposite directions. The fall in the pressure-gradient in the capillaries must be fairly uniform from arteriole to venule; but as there is usually a considerable fall from the capillaries to the veins there must be a corresponding difference between the efferent and afferent capillaries, and thus transudation and absorption in different parts of the same network can be readily explained. In the intestinal capillaries the larger and deeper vessels supply the secretory structures, and the smaller and more superficial vessels are the absorbents.

The interchange of gases which are in solution readily takes place by the process of diffusion; and osmosis must play a very important part in transudation and absorption according as the osmotic equivalent is greater on one side than the other of the capillary membrane. In 1886, when dealing with the pathology of dropsy, I said: "Fluids pass very readily through organic membranes, such as the walls of the capillaries, by a process of osmosis, but albumens do not thus readily transude. Unlike the capillaries at the lungs and kidneys, the systemic capillaries allow albumen to pass through their walls, so that it is found in all the intercellular fluids. Now, if it does not pass through by osmosis, we must suppose it to be filtered through under varying amounts of pressure. In filtering under pressure, as a rule, the greater the pressure the greater the amount of the filtrate, but the composition of the latter differs very materially from the nature of the compound fluid submitted to the pressure, as the different constituents pass through with varying degrees of ease, the water passing through much more readily than the albumen. Hence, although the total amount of albumen passed through may be increased according to the quantity of the filtrate, its percentage is diminished. Hence, the greater and more rapid the production of dropsy—if there be no increase in absorption—the less the relative amount of albumen." Runeberg in 1882 expressed similar views when he maintained that the concentration of a colloid filtrate is greater at lower than at higher pressures.

Time will not permit me to wander into this attractive by-path, but I wish you not to allow any advanced physiologist to allure you from the paths of truth. By all means prove all things, but hold fast to that which is good. On this score you cannot do better than adhere to the teaching of Professor Starling who says: "In fact, we may say that the formation of lymph and its composition, apart from the changes brought about by diffusion and osmosis between it and the tissues it bathes, depend entirely on two factors: (1) The permeability of the vessel wall; (2) the intracapillary blood pressure. So far as our experimental data go, we have not sufficient evidence to conclude that the endothelial cells of the capillary walls take an active part in the formation of lymph. It seems rather that the vital activities of these cells are devoted entirely to maintaining their integrity as a filtering membrane, differing in permeability according to the region of the body in which they are situated. Any injury, whether from within or without, leads to a failure of this their one function, and therefore to an increased permeability, with the production of an increased flow of a more concentrated lymph."

We shall now briefly glance at the capillaries and their functions in some of the principal regions of the body. In order to avoid repetition, I shall here include the minute arteries and arterioles which regulate the supply of blood to the capillaries. These little vessels are anatomically composed of three coats, but according to the function which they have to perform they vary very much in the thickness of the middle coat and in the supply of vasomotor nerves.

THE ARTERIOLES AND CAPILLARIES OF THE SKIN.

The arterioles are well endowed with muscular fibre and vasomotor nerves, chiefly of the constrictor type; frequently they are so contracted that the capillaries are almost empty, and in cases of local syncope quite empty, and the pressure and velocity fall to zero. When the vasomotor nerves are paralysed from a central cause the capillaries are full, their pressure increased, and the velocity diminished. When paralysed from a local cause—such as a mustard poultice—the capillaries are engorged and the pressure and velocity increased. Witness also the effects following the application and removal of an Esmarch's tourniquet. These little vessels are reciprocal to those of the splanchnic area, are largely concerned in regulating the temperature of the body and in maintaining the general arterial pressure.

The capillaries form an exceedingly close network in the corium and send loops up into the papillae. The pressure and velocity vary enormously. After a liberal meal—especially one containing ingredients which dilate the arterioles, raise the diastolic

arterial pressure, and thus provide an abundant supply of blood to, with increased pressures in, the capillaries—there is a free outpouring of lymph. In my opinion, a good deal of the work which has been done on the so-called digestion leucocytosis has been rendered worthless by the work of George Oliver on the tissue-lymph circulation. These observations were made on blood obtained from a prick of the finger, and this consists of a mixture of blood and lymph. The white cells are increased—the increase being in the lymphocytes—in proportion to the dilution with lymph and the red cells are proportionately diminished. If the lymph be compressed out of the tissues and then a drop of pure capillary blood be obtained, there will be found in it an increase of red cells, and the white cells will be much less than in the mixed blood and scarcely any more than would be obtained by an ordinary puncture two or three hours later when the lymph has been reabsorbed. This so-called digestion leucocytosis is therefore no evidence of any increase of white corpuseles in the circulating blood, but merely that lymph has been pressed out from the vessels, and in this lymph there is a considerable number of lymphocytes, probably obtained from the tissues rather than from the capillaries. There is no doubt a digestion leucocytosis, but it is not what has been described.

THE ARTERIOLES AND CAPILLARIES OF THE SPLANCHNIC AREA.

These arterioles are very muscular and well supplied with vasomotor nerves. These nerves are the chief regulators of the arterial blood pressure. The capillaries are very fine and form an extremely close network. The resistance to the outflow is very slight, except in cases of portal obstruction, hence the velocity is usually great and the lateral pressure slight. This is just what would be expected in vessels where absorption is an even more important function than secretion. Those capillaries which are given off earlier are the largest, and go to supply the secreting structures of the glands, while those which approach the surface of the mucous membrane are much finer, consequently the velocity in them is much greater and the lateral pressure less. This is where absorption takes place.

THE CAPILLARIES OF THE LIVER.

The capillaries of the liver are short and wide, measuring 0.5 to 1 mm. in length and about 10 to 13 micromillimetres in diameter. The velocity is often so slow that the liver is of a dull purple color, and the pressure is relatively but not absolutely high. The liver capillaries are very permeable, and, as has been shown by Professor Starling, give rise to a free secretion of concentrated lymph. This is in accordance with the observations of

Runeberg and of myself that the concentration of the filtrate is greater at lower than at higher pressure. Professor Starling has also shown that the lymph is also increased by any obstruction to the outflow from the hepatic veins. In the large nutmeg livers, induced by positive intrathoracic pressure and regurgitation through the tricuspid orifice, the capillary pressure is increased and the velocity diminished. In the early stages of hepatic cirrhosis, while there is an increased exudation and fibrosis along the portal vessels there is also marked congestion of the central lobules due to cardiac asthenia, dilatation of the tricuspid orifice, and increased venous pressure, the results of chronic alcoholic intoxication. At this period the liver is enlarged from hepatic congestion, and it is only later that the contraction of the newly-formed fibrous tissue leads to diminution in bulk. The liver acts as a reservoir for the right side of the heart.

(To be continued.)

RACE SUICIDE AND CHRISTIAN SCIENCE.

BY JAMES H. RICHARDSON, M.D., TORONTO.

I HAVE no doubt that many, if not most, readers of this journal may be impatient at the mere mention of Christian Science, and I would not ask for any space if it was not for the extreme importance of Mrs. Eddy's teachings, as to marriage, procreation, and marital relations, which can only be discussed in a medical journal.

Mrs. Eddy, on the occasion of the opening of the New Church, in Boston, sent a message to the assembled thousands, which needs no notice, except for these words:

"*Marriage, synonymous with legalized lust, and the offspring of sense the murderers of their brothers.*"

In case any one should hesitate to believe that this was more than thoughtless verbiage, and that Mrs. Eddy meant exactly what she said, it is necessary to show that this is one of the fundamental doctrines of Christian Science, enunciated, and repeatedly insisted upon, throughout *Science and Health*, and in her other works.

1. She maintains that the account given in Genesis 4. 1, is "a lie." She quotes:

"And Adam knew his wife, and she conceived, and bore Cain, and said: 'I have gotten a man from the Lord;' and declares: "Eve's declaration supposes God to be the author of *sin, and sins' progeny*," and, "The scriptures declare that God condemns this lie. This false sense of existence is patricidal. In the words of Jesus, it is a 'Murderer from the beginning.'" In proof Mrs. Eddy quotes Jesus' words: 'I have chosen you twelve, and one of you is a devil,' and adds: "This he said of Judas, *one of Adam's race*."

2. Throughout *Science and Health* the Adamic race is referred to as being not the children of God, but of the Devil.

3. At the end of *Science and Health* she gives a "glossary," in which she defines as follows:

"Children—Counterfeits of creation."

"Benjamin—A *physical belief* as to life."

"Dan—Animal magnetism."

"Issachar—A mortal belief."

"Jacob—A corporal mortal."

"Joseph—A corporal mortal."

"Judah—A corporeal material belief."

"Levi—A corporeal sensual belief."

"Moses—A corporeal mortal belief."

"Neah—A corporeal mortal belief."

"Rhenben—A corporeal mortal belief."

She adduces these as being of the Adamic race, and therefore as "Children of the Devil."

4. Please bear in mind that Mrs. Eddy's contention is that the Adamic race are not God's children, but are *the offspring of lust*, and you will see the significance of the words of her message: "Marriage synonymous with legalized lust."

5. In accordance with this belief in the sinful origin of man Mrs. Eddy looks forward to the time when "The superiority of spiritual power *over sensory*, will usher in the dawn of God's creation, *when they will neither marry nor are given in marriage*.—(Miscellaneous writings, p. 288.)

"Until time matures," however, "human growth, marriage and progeny will continue unprohibited in Christian Science." (Miscellaneous writings, p. 288.)

To abolish marriage, at the present, and maintain morality, and generation, would put ingenuity to ludicrous shifts, *yet this is possible in Christian Science*. "The time cometh, and now is for *Spiritual* and Eternal existence to be recognized in Christian Science." On the same page she proposes the question:

"Is marriage nearer right than celibacy?" and answers: "*Human knowledge inculcates that it is, while science inculcates that it is not.*"

"Human procreation, birth, life, and death are subjective states of the human erring mind. . . . God is the only creator, and we recognize this. . . and shut out all sense of other claims."

"Progress lifts mortals to discern the *Science of Mental formation*." (cit. p. 287.)

6. I have thus tried to lead up to the terrible conclusion to which I call special attention. Bear in mind: Mrs. Eddy teaches that all children born in wedlock, are "the offspring of legalized lust, merely. That the desire and expectation of christian scientists are for spiritual—spiritual, not *sen-sual—generation*. And then read: "Human nature has bestowed on a wife the right to become a mother, but if the wife esteems not her privilege, by mutual consent, she may reach a higher."

The reader will now perceive the significance of the heading: "Race Suicide and Christian Science." Race suicide enjoined upon christian scientists, *as a duty*; mothers taught that they can "reach a higher nature by foregoing" the privilege of becoming a mother." All children born in wedlock the offspring of legalized lust! "the children of the Devil!"

Imagine the state of a household in which the wife, believing that her progeny will be the offspring of sin, pleads with her husband to allow her to remain childless. The husband knowing that any marital intercourse with his wife is loathing to her!

is violating her religious aspirations ! a husband consenting to be deprived of children ! what a Hell !

Can anybody doubt the truth of Mr. Peabody's declaration : " I should like to go into a plain consideration of this pernicious phase of Mrs. Eddy's teaching, but it is not possible in anything but a medical work.

" Suffice it to say, that the teachings of this woman have, within my observation, again and again resulted in the most complete demoralization of the married relation, and destructive of all that is sweet and wholesome in married life. In time, according to Mrs. Eddy's teachings, there will be no marriage, and generation will be entirely independent of sex. Man will be a superfluity in the process, and women will conceive through the effort of the will merely. Insane as this teaching is, some thousands of Mrs. Eddy's friends believe it to be the teachings of omniscience, and as such make it the desire of their lives."

Mrs. Eddy resorts to science for confirmation of her insane ideas about generation (on p. 541, *Science and Health*) : " The propagation of their species, by butterfly, bee, and moth, without the customary presence of male companions, is a discovery corroborative of the science of mind : because these discoveries show that the origin and continuance of certain insects rest on a principle, apart from sexual conditions." This quotation is from what professes to be a revelation made, word for word, from God. Is there a single one of her dupes who knows that if it was not that these insects, at the close of summer, produce males and females, and have sexual intercourse the species would inevitably cease to exist ?

Her professed revelation (p. 539) gives another proof in the following words, whose absurdity is phenomenal, even for Mrs. Eddy.

" The late Louis Agassiz, by his micro-copic examinations of a vulture's ovum, strengthened the *author's* conclusions as to the scientific theory of creation. He was able to see in the egg the earth's atmosphere, the gathering clouds, the moon and stars, while the germinating speck of embryonic life seemed a small sun " ! !

I could fill page after page with absurdities nearly as equal to this, but refrain. I do not wish to divert the minds of my readers from serious consideration of Mrs. Eddy's teachings as they affect the relation of husband and wife.

We sincerely hope that the " perfect day," longed for by Christian Scientists, will soon arrive, when they have given up the procreation of children by sexual relations, " and shall neither eat to live, nor live to eat." (*Science and Health*, p. 387.)

* Mr. Peabody is a lawyer of eminence in Boston, Mass., and delivered his lectures in Tremont Temple. He made statements concerning Mrs. Eddy, her character, her frauds, etc, which would subject him to heavy penalties if he did not prove them in a law court, and dared her to prosecute him.

PENETRATING STAB-WOUNDS OF THE ABDOMEN.

BY N. A. POWELL, M.D.,

Surgeon, Hospital for Sick Children, and Emergency Hospital; Assistant Surgeon,
Toronto General Hospital.

IN the emergency surgery of every large city cases of this kind occur from time to time, and which ought to be placed on record so as to be available in formulating the best methods of treatment. From a series of such injuries three cases are selected and here presented as possessing certain points of interest.

1. Man aged 24—hostler—returned to his bedroom in a boarding-house at 11 p.m.—found in bed at 7 next morning with much blood on mat at his bedside; both testes had been cut out by means of a dull knife, and an opening made four inches long near the middle line above the umbilicus, through which protruded a mass of omentum and many coils of small intestine. The parts involved were covered by towels wrung out of an extemporized hot saline solution, and the man removed to the General Hospital, where my colleague, Dr. Grasett, was good enough to take over the care of the case.

Excision of the prolapsed omentum, cleansing of the bowel, ligating of vessels and closing of wounds without drainage was followed by a satisfactory recovery. This man was suffering from melancholia, and we subsequently had him removed to an asylum.

2. Man, aged 27, found by police near Stanley Park at 11 p.m., with both hands clasped above his left groin and holding up against a very dirty vest and shirt a quart or more of omentum and of large and small intestine, extruded from a stab-wound six inches long, which crossed the descending colon obliquely from above downwards and inwards. The bowels were wounded in a number of places, but extravasation of its contents was fortunately limited.

At the Emergency Hospital I wrapped the prolapsed viscera in hot towels wrung out of saline solution while the cleaning-up process was being carried out, and then, under anesthesia, excised the soiled omentum, sutured the bowel, and spent much time in making the toilette of the peritoneum. A stream of salt solution was kept constantly flowing over the parts to avoid their drying. So many bowel injuries were found that this man was practically eviscerated on hot towels before it was thought safe to close his wound. No drainage was employed, and the convalescence was uneventful. No history of how the wound was received could be obtained.

3. Woman, aged 50, melancholic, brought into Emergency Hospital with a mass of omentum as large as a fist protruding from a self-inflicted cut in the region of the umbilicus.

The wound area was protected as in the last case, and rapid preparation made for celiotomy. Upon enlarging the abdominal incisions they were found to lead into an umbilical hernia, containing incarcerated omentum, but no bowel. This had been cut up pretty extensively by the knife, which fortunately was not a sharp one. The adhesions all around were freed and the omentum ligated off in sections and removed. It only remained then to overlap the fascia and do an ordinary operation for the radical cure of the hernia. A smooth recovery is now taking place.

Commenting on these cases, it has seemed safer to the writer to remove infected omentum, rather than to trust to cleansing and replacing it. Fat, being a lowly organized tissue, has little resistance to infection. Most of us have had unpleasant proof of this when too large a size of catgut has been buried in a fat abdominal wall, or when we have included the fatty layer and tied a suture of any material too tightly. The avoidance of the drying or the chilling of bowel during the necessary exposure, the prevention of all traction on the mesentery (which would so notably increase the shock), as also rapid accuracy of manipulation on the part of the surgeon, would seem to be factors to which attention may fairly be directed.

In conclusion, if we are to disprove the Texan aphorism, "When a man gets a cut gut, he sure dies," we must overlook no lesion of bowel, and this means that we must pass in review every portion of it, from the diaphragm to the pelvic floor.

ABSTRACTS.

Hygiene in Prussian Army.—Werner (*Deutsche medizinische Wochenschrift*, Berlin and Leipzig) describes the progress of hygiene in the army and the reduction of morbidity. Comparing the year 1873 with that of 1902, the statistics show that nearly 2,500,000 days of treatment of the sick were saved, and 2,462 lives. In 1873 an average of 31.9 out of every 1,000 men were sick, while in 1902 the average was only 25.3. The morbidity of typhoid in 1902-3 was .85 in each 1,000 soldiers; in France it was 4.3; in Austria, 1.9, and in Italy, 4.1. The mortality from typhoid during the same period was .09 in Prussia, Saxony and Wurttemberg; .59 in France; .25 in Austria, and .78 in Italy. The average of venereal diseases during this period was 19.4 in Prussia, Saxony and Wurttemberg; 29.3 in France; 57.5 in Austria; 91.5 in Italy, and 122.7 in England. The venereal diseases have diminished in the Prussian army by 49 per cent. since 1873, and syphilis by 59 per cent.

Generalized Cancerous Lymphangitis of the Lungs.—In the two cases described by L. Bard (*Semaine Médicale*, Paris) the condition was a surprise when discovered post-mortem. In retrospectively reviewing the cases, however, he noted certain points which might suggest the diagnosis when encountered again. The anatomy of the parts allows the isolated and almost simultaneous generalization of the process throughout the lymphatic system in the lungs in a way impossible in other organs. Two of the few cases of the condition on record were reported as cases of suppurative lymphangitis, the mistake not being discovered until afterward (Raynaud and Troisier). Rapidly progressive, intense dyspnea, without explanatory auscultation findings, in a patient presenting evidence suspicious of a cancerous or ulcerative lesion in the stomach, should always suggest the possibility of the condition under discussion. In some cases a concomitant bronchitis masked the specific symptoms. The condition seems to occur mostly in the early stages of cancer. The rapid diffusion is characteristic of cancer in the young. All the cases on record were in comparatively young persons, between the ages of 20 and 35, all males. Bard long ago pointed out that in young subjects cancer seems to have a peculiarly rapid growth with unforeseen complications. It is possible, he adds in conclusion, that the cases described as "galloping cancer" of the lungs or "galloping consumption," may have included some in which the trouble was this generalized lymphangitis secondary to an unsuspected cancer elsewhere.

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J. J. CASSIDY, M.D.,

EDITOR.

43 BLOOR STREET EAST, TORONTO.

Surgery—F. N. G. STARR, M.B., Toronto, Associate Professor of Clinical Surgery, Toronto University; Surgeon to the Out-Door Department Toronto General Hospital and Hospital for Sick Children; N. A. POWELL, M.D., C.M., Prof. of Medical Jurisprudence, Toronto University, Surgeon Toronto General Hospital, etc.

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W. A. YOUNG, M.D., L.R.C.P. Lond.,

MANAGING EDITOR.

145 COLLEGE STREET, TORONTO.

Medicine—J. J. CASSIDY, M.D., Toronto, Member Ontario Provincial Board of Health; Consulting Surgeon, Toronto General Hospital; and W. J. WILSON, M.D., Toronto, Physician Toronto Western Hospital.

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Editorials.

THE TREATMENT OF HEMIPLEGIA.

PATIENTS predisposed to apoplexy should lead a quiet life, free from physical and mental excitement. Their diet should be nutritious, but easily digestible; constipation should be relieved by the occasional use of a saline laxative or an enema. When a patient has been attacked with hemiplegia he should be placed in bed with his head moderately elevated and the neck free; an ice-bag

may be placed on the head, hot bottles to the feet; brisk catharsis may also be sought for. Catheterization of the bladder may be necessary if the patient remains long unconscious.

In the sixth edition of his work on "The Principles and Practice of Medicine," Dr. Osler says of the after treatment of hemiplegia: "During recovery the patient should be kept entirely at rest, even the mildest cases remaining in bed for at least fourteen days. The ice-bag should still be kept at his head. The diet should be light, and no medicine should be administered at least during the first month after the hemorrhage. Attention should be paid to the position occupied by the paralyzed limb or limbs, which, if swollen may be wrapped in cotton batting or flannel." Should syphilis be suspected to be the cause of the attack, the iodide of potassium should be used, giving from 20 to 30 grains three times a day or, if necessary, larger doses. If the syphilis has been recent, mercurials by inunction are also indicated.

In reference to the subsequent treatment of hemiplegia, Dr. Osler also writes: "The paralyzed limbs may be gently rubbed once or twice a day, and this should be systematically carried out, in order to maintain the nutrition of the muscles and to prevent, if possible, contractures. The massage should not, however, be begun *until at least ten days* after the attack."

Though no reason is given for this caution, Dr. Osler probably intends to convey the idea that early movements of the hemiplegic patient's body might cause a reappearance of the hemorrhage from the ruptured vessel in the brain.

In a paper entitled "How to Treat Hemiplegia," read in the department of Therapeutics and Pharmacology of the International Medical Congress, Lisbon, April 21-26, 1906, Dr. Maurice Faure describes a symptomatic treatment of hemiplegia, which is said to be both active and efficacious. He says: "As soon as the diagnosis of hemiplegia is declared, *immediately and without* losing twenty-four hours, all the patient's joints should be moved minutely for a long time and several times a day, and the muscles should be massaged." He claims that the early moving of the patient's joints, and massage, will prevent anarthrosis of the shoulder joint, which appears during the first days succeeding an attack of hemiplegia. All the other anarthroses which soon follow, the reflex muscular atrophies, which rapidly develop in the neighborhood of

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the antrites, the pains resulting from the antrites, myosites, neurites, the contractures caused by the pain, and finally the vicious attitudes and the irreparable retractions which result from atrophies, contractures and immobility would thus be prevented in a large degree by the employment of passive, methodical and progressive movements.

When the patient's mental faculties have been restored and brain fatigue does not come on rapidly, he should receive a methodical re-education in voluntary movements, at first elementary, afterwards more complicated, the teacher reducing to a minimum the expenditure of muscular force, and as far as possible the effort of attention on the part of the patient. According to Dr. Faure this treatment preserves the suppleness of the paralyzed members, the strength and volume of the muscles, thus assisting in the restoration of voluntary movements. Voluntary movements generally reappear slowly in a paralyzed upper extremity, the normal movements of which are more difficult, more numerous and more highly differentiated than those of the lower extremity.

Dr. Faure says that the results obtained in practice justify the opinion that many of the motor disorders occurring after hemiplegia, which are commonly ascribed to the fatal evolution of a cerebral lesion, are really avoidable complications of paralysis. The pathogenesis of the antrites, atrophies and contractures occurring in badly treated cases of hemiplegia may thus be prevented.

Respiratory and digestive disorders, due to the hemiparesis of the muscles of the thorax and abdomen, are regularly observed in hemiplegic patients. Special exercises are indicated to overcome pulmonary congestion, fecal stasis and the infections resulting therefrom. Without depreciating the advantages derivable from an observance of the rules of hygiene, together with local and general medication, Dr. Faure teaches that methodical exercises begun early in the treatment of hemiplegic patients will contribute to the maintenance of their general health.

When a hemiplegic patient does not receive the treatment indicated by Dr. Faure in good time, and the exercises are only begun after the establishment of contractures, stiffness, atrophies or vicious attitudes, the results of treatment are mediocre and call for considerable time and the exhibition of much patience on the part of the medical attendant.

Respecting electro-therapeutic treatment, Dr. Faure says, that it may be used as a useful adjuvant in remedying certain muscular atrophies localized in relaxed muscles ; but he does not favor the general employment of this agent to the paralyzed side of a hemiplegic patient, as is too often done in the routine treatment of such cases.

J. J. C.

THE NATURE AND TREATMENT OF HYSTERIA.

PROFESSOR BABINSKI, Paris, proposes to substitute the word *pithiatism* for hysteria, and the corresponding adjective *pithiatic* for hysterical. The Greek word *πειθω* signifies persuasion, and *ιατος* signifies curable, so that these newly coined words designate a psychic state manifesting itself by disorders curable through persuasion. He briefly laid down during his conference the different concepts of hysteria, which have obtained in medicine. He discussed the stigmata of hysteria, showing that they are not permanent, are not developed without the patient's knowledge, and that their value is not as great as has been supposed. One of the fundamental characters of hysteria, he thought, is its capacity for being produced by suggestion; its second character is its readiness to disappear through persuasion. He therefore proposes to place the word *pithiatism* above the nosological group in which hysterical disorders are classed. He likewise showed that hysteria cannot simulate all forms of disease. Cases of edema, phlyetene, anuria, hemoptysis, hematuria, and hysterical fever have been ascribed to hysteria, but, in his opinion, incorrectly so. In discussing hypnotism, he held that a person may be said to be hypnotized when, after the performance of certain passes, paralyses, contractures, or anesthetics are observed to occur. Hysteria and hypnotism are intimately related to each other. He proposes to give the following definition of hysteria : Hysteria is a psychic condition, rendering the person affected by it capable of acting on herself, through auto-suggestion. It manifests itself principally through primary disorders and through secondary disorders acting in an accessory way. The characteristic of the primary disorders is that they can be reproduced by suggestion with the greatest exactness in certain persons, and that they can be made to disappear

exclusively under the influence of persuasion. The characteristic of the secondary disorders is their close subordination to the primary ones.

Professor Babinski defines hypnotism as follows : A psychic condition, rendering the person affected by it susceptible to the suggestion of another person, manifesting itself by phenomena, which suggestion originates, which persuasion removes, and which are identical with hysterical disorders.

The above definition would, if accepted, lengthen the list of persons afflicted with hysteria. In fact, any person of either sex who is credulous enough to be easily influenced by suggestions emanating from another person is hypnotizable. Such a person might be attacked by a disease through the suggestions of another, or through auto-suggestion, and the suggested disease could be removed by persuasion. The treatment of hysterical disease, which, according to Babinski, is identical with the phenomena of hypnotism, consists in persuasion.

Christian Science is a system of therapeutics founded on persuasion, and a good many of its followers are hypnotizable persons. These two circumstances explain the rapid growth of this new religion. Perfect health in man or woman is rare ; few escape the blighting influence of neurasthenia. A hypnotizable person may suggest to himself that he has a disease, the phenomena of which he may have studied ; medical students will understand this form of auto-suggestion. To others the suggestion of disease comes through advertisements, in which the symptoms of a disease are described with great exactness, a patent medicine being recommended as a cure. The element, persuasion can invest even bread pills with curative powers. If potent drugs—morphine, cocaine, alcohol—are used by the pituitary patient, much harm may result. Disgusted at failure to obtain relief from an imaginary disorder by the use of potent drugs, the hypnotized one may suggest suicide to himself, or, possibly, may be persuaded to join the Christian Scientists. In the latter event, he does obtain relief, for his disorder is not founded on a pathological lesion, and yields to the influence of a faith, which cures functional disease by persuading the patient that it does not exist. It may have been a dyspepsia, founded on irregular habits of eating, aggravated by mental distress or by bad hygiene. Again, the dyspepsia of adult

life, which to the sufferer and his friends indicates organic mischief, fades away of itself as middle age is reached, when the struggle for wealth or fame is less arduous, when the nerve centres are less severely tried than they were during the earlier period of adult life. Incorrectly viewed, relief from dyspepsia is often misunderstood, and what is due to a better functioning of the nerve centres arising from the persuasion that all is well, may be ascribed to a supernatural influence—the influence of religious practices. Prayer, singing, invocation is also calculated to powerfully affect the heart and the imagination. At the therapeutic seances of Christian Science, special prominence is given to reading passages from Holy Writ relating to miraculous cures, and this persuasive point is driven home—what has been done to others in the days of Christ and his apostles may also be done to ourselves at the present day. Animated by such language, persuaded by the contagious behaviour of associates, dyspeptic or neurasthenic persons are cured of their suggested or self-suggested complaints by the persuasion, that they do not exist.

Although not responsible for the private good or general benefit accruing from the operation of State hygiene, Christian Science reaps an unearned harvest from the enforcement of hygienic laws. Typhus fever, typhoid fever, diphtheria, smallpox, cholera, which, in endemic or epidemic form, used to sweep away great numbers of people, only a few years ago, are now powerfully restrained. Preventable diseases, not of the imaginary kind, however, are prevented, but not by Christian Science; *non tali auxilio*.

The influence of this persuasive religious cult makes inroads on the income of the physician; the more fortunate surgeon is exposed to less financial loss. Abandoned by the populace for advertised drugs or some persuasive faith cure, importuned at times by shameless clients to take human life, rather than to save it, the physician must be wary if he would not be driven to the wall. Bound as he is by an iron code of medical ethics, he must struggle with pithiatists of different denominations who are restrained by no professional obligation, who merely seek their private gain or the gratification of their whims. The path of the general practitioner of Ontario to-day is a thorny one, relieved here and there by the wild flowers that grow by the wayside, and here is a spray of live-for-ever plucked from the waste of weeds and thistles he

walks through. In treating suggested or self-suggested disorders let him avoid the use of potent medicines, and pin his faith to placebos and persuasion.

J. J. C.

THE REPORT OF THE REGISTRAR GENERAL OF ONTARIO FOR 1904.—TUBERCULOSIS IN ONTARIO.

THE report of the Registrar-General of Ontario for 1904 contains, among other interesting matters, some references to the causes which increase the mortality from tuberculosis in this province. These are said to be chiefly: urban life, proximity of certain communities to the River St. Lawrence and the present lax medical examination of the immigration department of the Dominion Government, by which tubercular persons of foreign birth become victims of tuberculosis, from which they have suffered before leaving Europe. The evils of urban life admit of amelioration; proximity to the St. Lawrence may be robbed of ill effect through drainage of the soil; negligent inspectors are removable.

The following table shows deaths from tuberculosis in Ontario through the decade 1895-1904:

Year	Pop. of Ontario	No. of Deaths from Tuberculosis	Rate per 100,000 of Pop.
1895	2,211,101	2,472	1.11
1896	2,263,492	2,922	1.29
1897	2,257,378	3,164	1.35
1898	2,279,929	3,291	1.44
1899	2,302,705	3,405	1.41
1900	2,325,712	3,484	1.49
1901	2,184,144	3,284	1.50
1902	2,205,965	2,694	1.22
1903	2,198,692	2,723	1.23
1904	2,203,968	2,877	1.30
Total	22,433,086	30,316	1.30

Thus, with slight variations in the population of this province during the past decade, although the balance is now against us instead of in our favor, it will be seen, that the proportion of deaths from tuberculosis does not vary very much from year to year. Taking the aggregate population of the last decade, and the total deaths from tuberculosis in this province, during the same period the rate is 1.30 per 100,000 of population. Not a bad showing for a population of which 22.5 per cent. were residing in 14 cities in 1904.

The report shows that the mortality from tuberculosis was greatest in Toronto, Hamilton and Ottawa, the largest cities of this province. However, this higher rate in the cities was probably influenced by the presence in them in 1904 of institutions, such as hospitals, almshouses, orphanages, refuges for aged and infirm people, and in Toronto and Hamilton respectively an asylum for the insane. Many inmates of these institutions coming from cities, country places or villages, most probably had tuberculosis in a latent form on admission, the subsequent fatal termination not being fairly attributable to the circumstances of institutional life, nor to urban life either.

An important source of error in attributing the large mortality from tuberculosis in the cities to remediable conditions of civic life is, that tubercular patients, often after the lapse of many years, return to their old homes only to die, their deaths being registered in the cities instead of the places where the disease had its origin, or where the conditions were such as to favor susceptibility.

On the other hand, the death rate from tuberculosis in Muskoka, viz., 155 per one hundred thousand of population, would indicate that deaths occur there of persons suffering from tuberculosis, who sought that healthful part of the province with the hope of being benefited in their health, but who succumbed to the disease before being able to return home.

Aside from the debatable causation of tuberculosis through infected meat, butter and milk, there is an agency which has long been considered operative in the production of this disease and to which attention is drawn in the report.

Dampness of the soil is considered a cause owing to the fact that residence on a soil in which the ground water is at least five feet from the surface is said to cause debility and a tendency to respiratory disorders.

If this observation were applicable to all kinds of soil Toronto Island would not be selected as a health resort, particularly by people who wish to escape the attacks of tuberculosis, not to speak of rheumatism and neuralgia. There are, however, it must be understood, compensatory advantages at Toronto Island—pure air and strong sunshine—agencies which destroy the vitality of the bacilli tuberculosis. It may also be, that some importance should be attached to the quality of the soil. We are not prepared to dis-

cuss the matter here; but it does not seem reasonable to attach the same importance to dampness in a sandy soil and to dampness in an undrained clay soil. However, the report says: "Of the old settled counties, Waterloo has the low rate of 67; Norfolk, 71; Dufferin, 75; Haldimand, 79, while the counties with a high rate are found to be those bordering on the River St. Lawrence—Leeds and Grenville, 193; Stormont, Dundas and Glengarry, 213."

Dampness in the dwellings cannot be a direct cause of tuberculosis; but the inference from the view in the report would favor the opinion that residence in a damp dwelling is a cause of debility, which increases susceptibility to that disease. The really interesting point to discover is why residences in counties bordering on the River St. Lawrence are damp, and the important thing to do is to prevent this dampness in the dwellings if possible.

There is a consensus of medical opinion that a crowded condition of dwellings is a cause of tuberculosis—principally because of the fact that persons suffering from it are brought into contact with others to whom the disease is communicated through the expectoration. Many halls, churches, schools, theatres, factories and workshops in Ontario are overcrowded and they will be overcrowded until regulations providing for the ventilation of public buildings, similar to those in force in Massachusetts are adopted and enforced in Ontario.

The official inspection of dwellings is also called for, in view of the crowded state of the dwellings inhabited by the working classes of Toronto. Rents have advanced in price and the "doubling up" process has been resorted to freely, especially by the foreign-born population. The establishment of tenement houses will not remove the evils of overcrowding, unless strict regulations are made and enforced providing for a minimum cubic air space per capita in these houses.

As an instance of the bad effects of overcrowding, "It is said that in the British Navy between 1883 and 1890 diseases of the lungs increased 60 per cent. It had been supposed that the doing away with masts, sails and rigging with the consequent lessened exposure of the men to cold and wet, would have a contrary effect; but the influence of these agencies has been more than counterbalanced by the change in conditions below, the men living now in a very crowded condition in hot steel ships." (*Practical Hygiene*, Harrington, p. 622.)

Overcrowding and deficient ventilation are also operative in the production of tuberculosis in large standing armies, tuberculosis finding the greater number of its victims among those who are most confined. Hence it is more frequent in the garrisons of large towns than among the troops in the less thickly settled parts. Army surgeons find, that the most careful prophylaxis is demanded to prevent its spread and the ideal measures employed include the discharge of all persons capable of acting as foci of the disease.

These observations, by medical men, on the spread of tuberculosis in navies and armies fit in with and explain the portable nature of the infection of that disease and the radical methods which must be adopted, if it is to be kept within moderate bounds. Optimistic views as to the possibility of totally removing tuberculosis from the list of diseases, though well-meaning, are baseless. The principal methods of prevention are: Isolation of the phthisical, the universal reign of hygiene, especially in the homes, good food, and, last, but no means least, timely medical advice.

J. J. C.

EDITORIAL NOTES.

The Employment of Arsenic in the Treatment of Whooping Cough.—In *La Presse Médicale*, 18 Aout, 1906, Dr. Jacques de Nittis writes of his experience with arsenic in the treatment of whooping cough. He acknowledges that the use of arsenic in this disease is empirical—but he refers to the success obtained from arsenical medication in asthma and chorea. To the latter disease whooping cough bears a certain relation, owing to the spasmodic character of its attack. Evidently there is no scientific reason for affirming a priori the efficaciousness of arsenic in whooping cough, simply on account of some resemblance it bears to the diseases mentioned; the most that can be said is that the success attained in these diseases holds out some encouragement to the clinician to persevere. Dr. de Nittis treated a dozen cases of pertussis last spring with Fowler's solution of arsenic; his experiments were interrupted at the beginning of the month of May by the extinction of the epidemic. The results obtained were so encouraging, that he places arsenic at the head of the list of medicines to be employed in the treatment of whooping cough. He used large doses of the drug, a child five years old getting one drop of Fowler's

solution of arsenic after breakfast, two drops after dinner and two drops after supper. After a week's treatment slight puffing of the patient's face may be observed, when the administration of Fowler's solution should be suspended. This puffing of the face is said to have no symptomatic value and albumen does not appear in the patient's urine. No sign showing intolerance is observed, so that the treatment may be speedily resumed and should be kept up for two weeks. Treated in this way, Dr. de Nittis claims the disease runs an exceptionally mild course. The spasmodic element is profoundly attenuated, the number of whoops diminishes and the general tenor of the disease ceases to be characteristic of whooping cough. The real nature of whooping cough is not suppressed by arsenical medication. Dr. de Nittis thinks that this fact is brought out in the case of one of his patients. She ceased coughing March 6th, 1906; but continued to have the infection in her system, for, on March 22nd, when she took cold her cough resumed the distinctive character of pertussis. In addition to attenuating to an extreme degree the exhausting cough of whooping cough, which in itself constitutes a danger, arsenic acts as a tonic to the debilitated patient. Dr. de Nittis also claims to have isolated the microbes of whooping cough, incapsulated cocci, sometimes in the form of diplococci, or short little chains, even in lumps in the culture, not taking the gram stain, yielding on solid gelatine culture beds transparent blue colonies, which cause the appearance of bronchopneumonia when they are injected into young animals.

Treatment of Whooping Cough by the Use of Chloroform.—

Dr. Henri de Rothschild has employed chloroform in the treatment of whooping cough (*La Presse Médicale* 15 Aout, 1906). Anesthesia is effected by the aid of the oxygen apparatus of Dr. Guglielminetti. Narcosis is not complete, muscular relaxation sufficing and the abolition of the corneal reflex is not required—narcosis lasts from five to ten minutes. He thinks that it is an extremely useful therapeutic method of treating whooping cough, because if it does not always cure instantaneously, still it rapidly attenuates the symptoms of whooping cough, reducing them to a minimum. The suppression of vomiting, the restoration of appetite and regular sleep give these little patients a chance to recover their strength and to escape from becoming culture beds for the

evolution of the bacilli tuberculosis. Dr. de Rothschild is not satisfied with regarding the mode of action of chloroform in the treatment of whooping cough as sedative or anti-spasmodic. The violent cough of pertussis is, indeed, a reflex cough, starting from an inter-arytenoid, nasal or tonsillar region. The excitation proceeding from these regions reaches the nuclei of the medulla oblongata, which are themselves in a state of permanent hyper-excitability, on account of their saturation with the toxins of microbes elaborated in the respiratory passages, and these nuclei, in turn, determine spasmodic and convulsive movements of the respiratory muscles. Dr. de Rothschild thinks that the sedative action of chloroform on the nuclei of the medulla oblongata explains the happy effects of chloroform in arresting the violent cough of whooping cough, its duration and intensity. The vapors of chloroform in impregnating these nuclei ought to neutralize the poisons of microbes. One may besides appeal to the total suppression of the peripheral excitation, which the exaggerated reflex of the attack of coughing provokes. Experience shows, that, in neuralgic affections proceeding from a spasmodic reaction, it often suffices to stop the irritation which serves as a point of departure, in order that all the phenomena of neuralgia may be completely arrested. In hay asthma, it suffices to find the point of departure of the reflex of sneezing and of the irritation of the respiratory mucous membrane and to destroy it by the cautery, in order to definitively stop the reaction. Similarly, in irritation of the throat, caused by a foreign body which has disappeared after producing the lesion, the patient may continue to suffer for a long time at the seat of the primary injury and to feel the presence of the foreign body, although it is no longer there. If the painful spot is made completely insensitive this sensation of pain will completely vanish. It is probable that in whooping cough complete anaesthesia suppresses the sensation and the irritability, which together form the point of departure of the attack. One must consider, that the reaction of the medulla oblongata in whooping cough, as well as in different forms of asthma, is out of all proportion to the peripheral irritation,—one understands then, that it suffices to suppress, either by destroying or anæsthetizing for a moment, the pretext of this letting loose of irritation in order to modify the course of the disease. But is this action simply anti-spasmodic? Dr.

de Rothschild does not think so, for the immediate cure determined in two patients, the evolution of the disease, which was abridged and interrupted in seven others, and permanently, appear to demonstrate to the contrary, that chloroform acts as a strong antiseptic. He thinks it probable that the passage of the vapors of chloroform at the moment of narcosis, the elimination of the drug by the lungs, the reflex hypersecretion from the mucous membranes which it determines ulteriorly should act directly or indirectly on the specific microbic elements of whooping cough. Whatever the nature of the action of chloroform on pertussis may be, it is most favorable. He even thinks that the action is specific. The number of cases treated is as yet insufficient to enable him to form a complete judgment; but he hopes that practitioners will employ this remedy and by adding fresh observations will confirm what he has observed.

Milk Adulteration in Toronto.—The ever fresh subject of milk adulteration has been brought under public notice lately by a bulletin issued from the chemical department of the Inland Revenue Department, Ottawa. Of the 31 samples of milk collected in Toronto by the department inspector, 13 were found genuine; 11 doubtful, 7 adulterated. The adulterant in five instances was water; in two instances partly skimmed milk was sold. This is not a bad result, though there is room for improvement. Annual inspection of dairies by our municipal health department and occasional exposures, made by the analysts, assist in keeping our city milk supplies in fairly good condition. The addition of Toronto water to milk will not improve it; but will not, we hope, produce typhoid fever in the consumers—the principal danger to be apprehended when water is added to milk. The skimming of milk is robbery and should be punished by bringing the offenders before the police magistrate. “The practice in the milk trade,” says Fox (*Sanitary Examinations of Water, Air and Food*), “is to rob the fresh milk of cream by pouring into it skimmed milk. The specific gravity, having thus been raised abnormally high, is toned down to the specific gravity, of good, rich milk by dosing it with water.” During the discussion on milk supplies in the section of State Medicine B.M.A., Toronto, Professor Glaister urged that the weak spot in the existing law and regulations respect-

the milk supplies was that executive action was deferred until the harm had been done. He advocated a system of inspection and supervision which would be as far as possible preventive in its operation. The soundness of this advice is apparent; but, even when inspection is done, grave defects are discovered, in the dairies supplying milk to a large city, as appear from the City of Chicago Bulletin of the Department of Health (Sept. 1, 1906, No. 35, p. 3). "The dairy inspectors inspected 116 dairies, representing 2,546 cows, among which only two diseased animals were found. No 'wet malt' was being fed in any of the dairies inspected this month. Eighteen dairies were denied the right to ship milk to Chicago for the following reasons: One for dirty methods of milking; 6 for bad condition of the herds; 6 for bad sanitary condition of the barns, and 5 for bad sanitary condition of the milk houses." Chicago has a monthly inspection of dairies.

Tuberculosis Discussed at the Third Congress of French-Speaking Physicians of North America.—In the section of Medicine, at the third congress of French-speaking physicians of North America, held at Three Rivers (Quebec), June 26th-28th, the question of tuberculosis was very fully discussed. The principal report read by Dr. Arthur Rousseau, of the Laval Medical Faculty, was entitled "A report on the etiology and prevention of tuberculosis in Canada." Dr. J. G. Paradis (Montmagny) also presented a report on the same subject. Remarks were also made by Dr. Triboulet, Dr. E. F. Panneton, Dr. Foucher, Dr. Laval, Dr. Beique and Dr. D'Amour. The following resolutions were subsequently adopted: In consideration of the fact that a state of organic breakdown, hereditary or acquired, favors the development of tuberculosis in many persons and that tubercular infection is extremely prevalent in Quebec, especially in families, the Association of Physicians of the French language of North America adopts the following resolutions: (1) That an active hygienic propaganda should be organized by the State under the direction of the Board of Health of the Province of Quebec. (2) That efforts should be made to develop among the people a taste for exercises suitable for increasing physical strength. (3) That a knowledge of the principles which in marriage and in the family can assure the production of a strong race and in particular, guarantee us against the dangers resulting to the child from

enforced privation of its mother's milk be generally made known. (4) That a careful inspection be made of schools and workshops, and that attention be, at the same time, paid to the general hygiene of these establishments and to the conditions of labor. (5) That a knowledge of the conditions of salubrity in private and public buildings be generally made known, and that the erection of unhealthy new habitations in cities be forbidden. (6) That certain faults against hygiene, such as the act of spitting on the ground in public places and even on the sidewalks be considered as offences and put down by means of suitable penalties. (7) That the State should supply tuberculin gratuitously for the diagnosis of bovine tuberculosis and should devote attention to indemnifying farmers who consent to the slaughtering of their tubercular cattle. (8) That it is important to interest benevolent societies, especially religious associations, in the creation of establishments which gather together in the country children in danger of catching tuberculosis in infected homes. (9) That, for the study of tuberculosis and the hygienic instruction of our population, it is urgent to interest the public and the existing hospitals in the establishment of anti-tubercular dispensaries, on a simple and inexpensive plan. (10) That the State should occupy itself with overseeing public interests, invested in insurance companies and in mutual associations, and assist the efforts of private initiative, tending to engage such institutions in the establishment of popular sanatoria.

Congress of French-Speaking Physicians of North America at Three Rivers, June 26-28, 1906.—We notice in *Le Bulletin Médical de Québec*, Juillet, 1906, that the Congress of French-speaking physicians of North America, held at Three Rivers, Québec, June 26-28, was well attended, and that the officers of the congress, notably Dr. Normand and Dr. De Blois, deserve to be felicitated on the success of their laudable efforts. It is further stated that over 120 papers and reports were presented; over 300 members registered. Three distinguished representatives of the French medical profession, Dr. Triboulet, delegate of the French Government; Prof. Proust, representative of the University of Paris, and Dr. Loir, representative of the French Association for the Advancement of Science were present and took part in the discussions. The next meeting of this congress will take place in the City of

Quebec, June, 1908, coinciding in point of time with the festivals which will take place in the ancient capital to celebrate the tercentenary of the foundation of Quebec by Champlain in 1608. The election of officers terminated as follows: Dr. Arthur Simard, president; Dr. H. Herveux, 1st vice-president; Dr. Lanoix, vice-president for the United States; Dr. Sirois, vice-president for the rural districts; Dr. Albert Paquet, general secretary; Dr. F. X. Dorion, treasurer.

J. J. C.

PERSONALS.

DR. B. E. MCKENZIE and Mrs. McKenzie tendered an evening reception to the members of the American Orthopedic Society at their residence on Bloor Street. The A. O. S. convened the day previous to the B. M. A. meeting. Dr. McKenzie's hospitality was much enjoyed by all present, and an opportunity was afforded to again enjoy a chat with the former Torontonians, Dr. and Mrs. Galloway, whom Winnipeg and the great West have claimed, and who speak in terms of admiration of their new home and Western life and ways.

Correspondence.

The Editor cannot hold himself responsible for any views expressed in this Department.

THE RECENT FIRE AT QUEEN'S UNIVERSITY, KINGSTON.

To the Editor of THE CANADIAN JOURNAL OF MEDICINE AND SURGERY :

My Dear Doctor.—On the morning of July 4th, a fire occurred in the Medical Building of Queen's University, originating in one of the bacteriological laboratories, probably from a leak of gas in connection with one of the incubators.

The press reports very much exaggerated the extent of the damage. Our insurance has been adjusted at \$1,500 on the building, and \$1,400 on the contents, and this is considered a fair settlement.

Work was at once commenced on the repairs to the building, and these will now soon be completed. New apparatus for the laboratory has been ordered from England, and it will be on hand long before the opening of the session. In the meantime the absolutely necessary apparatus has been borrowed from Toronto, and the work of the Public Health Department has been going on as usual with an interruption of only three days. Our most serious loss is in the library, where some sets of books have been entirely destroyed.

We desire you to inform students intending to enter their medical course next session, that there will be no interference with the work of the Faculty, and there need be no alteration of their plans.

The session opens on September 26th, and the prospects are that there will be the usual increase in attendance.

Work will soon begin on the new medical laboratories building to cost \$50,000. It is expected that this will be the best equipped set of laboratories in the country.

On behalf of the Faculty,

J. C. CONNELL, *Dean.*

W. T. CONNELL, *Sec.*

❖ *News of the Month.* ❖

A CREDITABLE RECORD.

FIGURES handed out recently give some details respecting the work of the Independent Order of Foresters for the year 1906 up to September 1. The number of applications for membership acted upon by the Medical Board may always be regarded as indicating the standing of the society in public favor. They are as follows:—

	Ac- cepted	Re- jected	Total Received
January.....	2,827	442	3,269
February.....	3,591	513	4,104
March.....	4,442	597	5,039
April.....	4,128	513	4,604
May.....	3,585	456	4,041
June.....	3,229	426	3,655
July.....	2,613	389	3,002
August.....	2,383	391	2,774
Grand Total.....	26,798	3,727	30,525

If the work accomplished thus far during 1906 may be accepted as indicating that for the balance of the year, it will far exceed in results the average for the preceding four years. In net gain of membership the figures for the six months elapsed to the 1st of July are much in excess of those for the whole of either of the two preceding years. During the eight months of 1906 to the 1st of September the accumulated funds were increased by \$592,525.02, standing on the 1st of September at \$10,302,108.85, after paying all charges for management expenses and the following benefits:—

Insurance or death benefits.....	\$1,299,191.39
Total disability benefits.....	72,535.67
Old age benefits (including expectation of life).....	50,789.84
Sickness benefits.....	145,783.88
Funeral benefits.....	10,156.57

Total benefits paid in eight months of 1906. \$1,578,457.36

In view of the disturbed condition of the insurance world during the past year it is but natural to find the public nervousness about taking up life insurance reflected in a reduced volume of business. It does not, however, appear to have extended to the

I.O.F., which the officers of the order point out, has kept on the even tenor of its way, still doing an increased and progressive business.—*Exchange.*

TRINITY MEDS. DINE.

OF all the many interesting social functions held in this city during the Medical Association week there were none that surpassed in interest and enthusiasm the banquet of the Alumni of Trinity Medical College. Through the activity of Dr. J. B. McMurrich and other old grads. of the city, a goodly number of the "boys" were got together at the St. Charles Café to pay their respects to Dr. Geikie, who was our honored Dean for twenty-five years, and had all the responsibility of the conduct of the College for thirty-two years prior to its amalgamation with Toronto University. Around that table were gathered men whose homes were scattered all over this old world, and whose speeches, largely reminiscent, told of old days spent in the acquirement of medical knowledge within the walls of old Trinity. It was an interesting moment when Dr. Luke Teskey arose and, in a neat and eulogistic address, presented to Dr. Geikie, on behalf of those present, a beautiful loving cup. The prolonged applause having subsided, Dr. Geikie replied in a speech full of his old time vigor, in which, after thanking his old students for their token of love and esteem, he traced the history of the College from its inception to the day of amalgamation. The early struggles of the Institution were reviewed, as well as the phenomenal success which attended the efforts of the faculty and students through all its years of activity.

After a period of speech-making and song, those present, after joining hands, sang "Auld Lang Syne."

Some of those present were: Dr. Adams, West China; Dr. Mcmurray, Innisfail, Alta.; Dr. Crawford, Calgary, Alta.; Dr. Ashton, Quincy, Ill.; Dr. Hicks, Alleghany, N.Y.; Dr. Vanstone, Winnipeg, Man.; Dr. Curtis, Paterson, N.J., and many others.

ONTARIO MEDICAL LIBRARY ASSOCIATION.

Hours of Opening: The library is open to members each week-day from 10 a.m. to 1 p.m. and from 2 p.m. to 6 p.m., except Saturdays, when it closes at 1 p.m.

Loans: Books can be loaned to members for two weeks, periodicals for three days.

Loans outside of Toronto: Books and journals will be loaned

to members of the Ontario Medical Association outside of Toronto, provided: 1. That such precautions be taken in packing as to guard against any injury in transportation. 2. That the borrower shall pay express charges both ways.

The library will be glad to receive gifts of books, journals and reprints.

Some of the recent accessions to the Library, are:—Ashton: Practice of Gynaecology, 1905; von Bergman: System of Surgery, 5 vols.; Babcock: Diseases of the Heart, 1903; Barker: Spalteholz's Atlas of Human Anatomy, 1905; Baruch: Principles and Practice of Hydrotherapy, 1904; Belot: Radiotherapy, 1905; Barr: Mental Defectives, 1905; Cheyne & Burghard: Manual of Surgical Treatment, 6 vols.; Cabor: Modern Clinical Medicine, 2 vols. published; Chittenden: Physiological Economy in Nutrition, 1905; Cushny: Pharmacology and Therapeutics, 1905; Edgar: Practice of Obstetrics, 1904; Gould: Biographic Clinics, 1905; Hewlett: Krehl's Clinical Pathology, 1905; Huntington: Anatomy of the Human Peritoneum, 1903; Hutchinson: Food and Dietetics, 1906; Kelly & Hurdon: The Vermiform Appendix and its Diseases, 1905; Lindsay: Diseases of the Lungs and Heart, 1904; Mummery: After-Treatment of Operations, 1903; Moynihan: Abdominal Operations, 1905; Nothmager: System of Medicine, 11 vols.; Ochsner: Clinical Surgery, 1904; Park (Roswell): An Epitome of the History of Medicine, 1903; Posey & Wright: Diseases of the Eye, Ear, Nose and Throat; Osler: Practice of Medicine, 1905; Robson & Moynihan: Diseases of the Stomach, 1904; Sahli: Diagnostic Methods, 1905; Scudder: Treatment of Fractures, 1904; Wright (A. H.): Text-Book of Obstetrics, 1905; Whitman: Orthopaedic Surgery, 2nd, edition.

Transactions, Reports and Periodicals: Association of American Physicians; American Pediatric Soc.; American Climatological Association; American Roentgen Ray Soc.; American College of Physicians; American Laryngological Association; American Laryn., Rhino. and Otol. Soc.; Henry Phipps Institute; Münchener Medizinische; Deutsche Medizinische;

BRITISH MEDICAL ASSOCIATION EXHIBITS.

(Continued.)

ALLEN & HANBURY'S exhibit comprised a large variety of aseptic furniture for operating theatre, ward, etc. and a model of operation table in phosphor bronze made by the above firm for His Majesty King Edward VII., for presentation. This table was selected by Sir Frederick Treves, after inspecting every other form.

as the most complete and yet simplest operation table made. Every position is obtainable and automatically fixed at any point.

A. & H.'s registered dressing or instrument tables are the cleanest made, every corner being dispensed with.

The thoroughly strong and British-like structure of A. & H.'s furniture is admirable.

A. & H.'s patent operation table is in use at 14 of large London hospitals or infirmaries as well as other institutions all over the world. A large display of surgical instruments manufactured in A. & H.'s factory in London, Eng., were also displayed, including intestinal blanks, lithotrites, bladder and urethral instruments, anæsthetic apparatus, Killian's instruments for nasal septum and frontal sinus, improved patterns of necote holders, self-retaining abdominal retractors, instruments for wiring and screwing ununited fractures, skull and brain instruments, gall bladder forceps and scoops, empyema and cleft palate instruments. Also Stack's portable dressing sterilizer, which can be used on ordinary Bunsen burner, kitchen fire, etc., the cost of this article, \$10.00, is quickly repaid to any surgeon doing even a few operations.

All the above are now kept in stock in Toronto at Allen & Hanburys, 66 Gerrard Street East, Mr. Lloyd Wood, manager.

NEW STAFF FOR THE HOSPITAL FOR SICK CHILDREN.

THE trustees of the Hospital for Sick Children have appointed the following staff for the year commencing 1st July, 1906.

Consulting Staff, Surgical—Dr. R. B. Nevitt, 46 Bloor St. W.; Dr. G. A. Peters, 102 College St.; Dr. N. A. Powell, 167 College St. Medical—Dr. A. McPhedran, 151 Bloor St. W.; Dr. H. C. Scadding, 182 Bloor St. W.; Dr. R. J. Wilson, 20 Bloor St. W.

Surgical Services, No. 1—Mr. Irving H. Cameron, 307 Sherbourne St., Senior; Dr. A. Primrose, 100 College St., Associate; Dr. B. Milner, 414 Bloor St. W., Junior. No. 2—Dr. G. A. Bingham, 68 Isabella St., Senior; Dr. F. N. G. Starr, 112 College St., Associate; Dr. Charles Shuttleworth, 45 Bloor St. E., Junior. The surgical services are co-equal in status. They are numbered separately for convenience.

Orthopedic Service—Dr. Clarence Starr, 224 Bloor St. W., Senior; Dr. W. Gallie, Toronto, Associate.

Medical Services, No. 1—Dr. H. T. Machell, 95 Bellevue Ave., Senior; Dr. W. B. Thistle, 171 College St., Associate; Dr. R. D. Rudolf, 396 Bloor St. W., Junior. No. 2—Dr. Allen Baines, 228 Bloor St. W., Senior; Dr. J. T. Fotheringham, 20

Wellesley St., Associate; Dr. H. C. Parsons, 72 Bloor St. W. The medical services are co-equal in status. They are numbered separately for convenience.

Isolation Wards, Medical—Dr. Wm. Goldie, 84 College St.; Dr. C. J. Copp, 96 Wellesley St., Associate. Surgical—Dr. S. Westman, Toronto.

Specialists, Eye—Dr. R. A. Reeve, Bloor and Park Road, Senior; Dr. James MacCallum, 13 Bloor St. W., Associate; Dr. W. Lowry, Toronto, Junior. Ear, Nose and Throat—Dr. G. Wishart, 47 Grosvenor St., Senior; Dr. G. Boyd, 167 Bloor St. E., Associate; Dr. D. N. Maclellan, 126 Bloor St. W., Junior. Pathologist—Dr. T. D. Archibald, 367 College St. Anesthetist—Dr. Alan Canfield, 636 Bathurst St. Registrars, Surgical—Dr. E. Stanley Ryerson, 261 College St. Medical—Dr. H. S. Hutchison, 317 Sherbourne St. Director of the Roentgen Rays Dept.—Dr. Samuel Cummings, 402 Bloor St. W.

Residents—Dr. A. C. Bennett from 1st January, 1906, to 31st December, 1906. Drs. A. H. Rolph, James C. Masson, Robert E. Woodhouse for one year each, from 1st July, 1906, and R. A. Jones and Fred. W. Manning for one year each, from 1st Jan., 1907.

FINAL EXAMINATIONS ONTARIO COLLEGE PHYSICIANS AND SURGEONS.

THE following candidates passed the final examination of the College of Physicians and Surgeons of Ontario, May, 1906: W. A. Atkinson, Barrie; A. R. Alguire, Cornwall; W. J. Bell, Toronto; J. H. Brodrecht, New Hamburg; H. W. Burgess, Toronto; W. J. Browley, Hamilton; S. J. Boyd, Sutton West; A. C. Bennett, M. R. Blake, Toronto; T. C. Brereton, Bethany; P. C. Bonghart, London; G. Boyd, Gravenhurst; Mary Bryson, Ottawa; F. L. Beer, London; A. W. Beattie, Pond Mills; Edith Beatty, Fergus; Elizabeth Bagshaw, Toronto; R. H. Bonnycastle, Campbellford; W. H. Cameron, Arthur; H. D. Cowper, Welland; M. H. Cameron, Toronto; H. B. Coleman, Cookstown; D. G. Cameron, Wallace town; J. Campbell, London; R. J. Carson, Sunderland; W. F. Clemesha, Port Hope; Mary Callaghan, Toronto; J. M. Dalrymple, Bismarck; W. J. Dobbie, Guelph; W. Dales, Silver Hill; E. C. Dickson, Orillia; J. M. Dale, Oakwood; S. R. Dalrymple, Bismarck; D. L. Ewin, St. Thomas; H. M. East, G. E. Eakins, Toronto; C. B. Eckel, Pembroke; R. B. Fitzgerald, Sanborn, N.Y.; Geo. Ford, Toronto; J. F. Finnigan, Oshawa; W. C. Gilday, Toronto; H. Glendinning, Valentine; W. J. Gould, London; W. E. Grimshaw, Wolfe Island;

O. Glenn, Adelaide; A. J. Gilchrist, Toronto; C. A. Gaviller, Grand Valley; J. A. Gallagher, Toronto; R. E. Hughes, Ottawa; J. E. C. Henderson, Hamilton; A. Henderson, Palmerston; J. F. Hogan, Kingston; E. Hixon, Glen Oak; A. Keane, Essex; H. C. Kindred, Havelock; J. A. Kinnear, Toronto; G. G. Little, Windsor; G. C. Leach, Fenella; L. C. Lauchland, Oshawa; M. W. Locke, Brinstin's Corners; R. C. Lowrey, Toronto; W. S. Lemon, Aylmer; W. S. Laird, Guelph; W. Merritt, Smithville; A. C. Mums, Moortfield; G. L. MacKinnon, Orangeville; G. D. Maclean, Woodbridge; R. J. MacLaren, Columbus; H. S. Mucklestone, Perth; F. W. Mohr, Ottawa; B. D. Munro, Toronto; R. J. Manion, Fort William; T. T. McRae, Cranbrook; W. J. McCormick, Toronto; S. McCollum, Beaver Mills; W. B. McNaughton, St. Raphael; D. McKenzie, Morden; A. A. McIntyre, Milverton; W. E. McLellan, Almonte; D. F. McLachlan, Essex; J. H. McPhedran, Wanstead; M. J. C. Naftel, Goderich; W. J. O'Hara, Cayuga; W. R. Patterson, Kingston; E. C. A. Reynolds, Scarboro' Junction; Hanna Reid, Tillonsburg; L. G. Rowntree, London; H. L. Reazin, Toronto; J. D. Reid, Prescott; Olive Rea, Toronto; Minerva Reid, Tillonsburg; E. Sutherland, Montreal; J. R. Stewart, Waba; J. Spiers, Drumbo; A. H. Spohn, Penetanguishene; G. S. Strathy, C. E. Spence, Toronto; Charles Schlichter, New Dundee; A. Sinclair, Kilsyth; R. W. Tisdale, Lyndoch; R. A. Thomas, Toronto; R. E. Valin, Ottawa; A. L. Webb, Brighton; C. A. Wigle, Warton; A. M. Watson, London; J. W. Wigham; J. L. Wilson, Toronto; W. M. Wilkinson, Woodstock; C. A. Young, Ottawa.

The Physician's Library.

BOOK REVIEWS.

Medical Jurisprudence, Forensic Medicine and Toxicology. By R. A. WITTHAUS, A.M., M.D., Professor of Chemistry, Physics, and Toxicology in Cornell University; and TRACY C. BECKER, A.B., LL.D., Counsellor at Law, Professor of Criminal Law and Medical Jurisprudence in the University of Buffalo; with the collaboration of August Becker, Esq.; Chas. A. Boston, Esq.; Hon. Goodwin Brown; W. W. Bullard, M.D.; G. C. Cameron, M.D.; J. Clifton Edgar, M.D.; Jas. Ewing, M.D.; E. W. Fisher, M.D.; J. C. Johnson, M.D.; D. D. Lamb, M.D.; H. P. Loomis, M.D.; W. B. Outten, M.D.; Roswell Park, M.D.; J. Parmenter, M.D.; Irving C. Rosse, M.D.; E. V. Stoddard, M.D.; G. W. Woodsley, M.D.; J. H. Woodward, M.D. Second Edition, Volume I. New York: Wm. Wood & Co. 1906.

This is indeed quite an important work. Volume I. consists of nearly 1,000 pages, seven hundred of which are devoted to Medical Jurisprudence, and the balance to Forensic Medicine. Dr. Witthaus contributes twenty-nine pages in a most interesting manner to what he terms the introduction, though in reality it is deserving of a more important title. The following twenty-five pages consist of a table of cases, as cited in Vol. I., adding materially to its value as a scientific work. Under the section devoted to Medical Jurisprudence we find chapters upon "Legislation Governing Physicians and Surgeons as Such," "The Legal Relations of Physicians and Surgeons," "Evidence of Communications between Patient and Physician," and "Synopsis of the Laws Regulating the Practice of Medicine." Under Forensic Medicine several important articles are contributed, dealing with "The Legal Status of the Dead Body," "The Powers and Duties of Coroners," "Medico-Legal Autopsies," "Personal Identity," "Determination of the Time of Death," "Death by Heat and Cold," and "Death by Starvation." Perhaps the most interesting is that from the pen of H. P. Loomis on "Determination of the Time of Death." In referring to the data upon which opinion as to time of death is formed, he says that some medical jurists have attempted to give a more definite character to these changes

in the recently dead body by dividing the interval between the stopping of the heart's action and the beginning of putrefaction into three periods. In the first, the warmth, pliability and muscular irritability remain. In the second these conditions are lost, and the body is cold and rigid. In the third the body is cold and pliant, the muscles are relaxed and the joints are flexible, the cadaveric rigidity having entirely ceased.

From a somewhat careful résumé of this work we feel that it is a distinct addition to the literature on Medical Jurisprudence.

W. A. Y.

Portfolio of Demochromes. By PROFESSOR JACOBI, of Freiburg, in Breisgau. English adaptation of text by J. J. Pringle, M.B., F.R.C.P., Physician to the Department for Diseases of the Skin at Middlesex Hospital, London. Part III. London: Robman Limited, 129 Shaftesbury Avenue, Cambridge Circus, W.C. New York Agents: Robman Company, 1123 Broadway. Toronto Representative: Mr. Wingate.

It is with a great deal of pleasure that we recently looked over Part III of Jacobi's Atlas of Skin Diseases, or, as he terms it, Portfolio of Demochromes. The volume is particularly fine, each reproduction being almost a work of art. We do not recollect of having seen anywhere more delicate coloring in many of the illustrations than those in this book. Especially true to nature are those of Chloasma, Sclerodema, Acne Rosacea, Scabies, Ecthyma, Eczema, Chronicum Infantum, and Rolent Ulcer. As an assistant in the diagnosis of many obscure skin diseases, we do not know of any work which will be found so helpful.

Rational Hydrotherapy. A manual of the physiological and therapeutic effects of hydropathic procedure, and the technique of their application in the treatment of disease. By J. H. KELLOGG, M.D., Supt. Battle Creek (Mich.), Sanitarium, with two hundred and ninety-three illustrations, nineteen in color. Third revised edition. F. A. Davis Co., publishers, W. J. McCormick, M.D., 304 Crawford Street, Toronto, Sales Agent. Price, Cloth, \$6.00; Half Russia, \$7.00.

The keen interest taken in serum, and hydrotherapy, is an evidence of the evolution going on in practical therapeutics. Whilst the proper use of drugs will always hold its place, yet the day is fast passing, when neither doctor or patient will be satisfied with a prescription and a few perfunctory instructions. Every vital function should be brought up to a normal degree of efficiency if possible, and no one factor is more potent for good, especially to the processes of assimilation and elimination than water, and no author has described its virtues more lucidly than Dr. Kellogg in his third

edition of "Rational Hydrotherapy." This work of over twelve hundred pages deals very fully with the principles and technique of hydriatics. It is divided into chapters, and these again into paragraphs, each of which is numbered. The author has a very felicitous style of expression. The language is plain; the sentences express facts concisely, and the paragraphs are so well constructed that the reader passes on from one to another with unabated interest. There is not a dull or unprofitable page in the book. The technique to be used in every mode of applying water, is so profusely illustrated that a physician with Kellogg's book, a pitcher of water and a towel, may do more to relieve his patient than by the aid of a drug store. Methods and principles so simple as to be carried out in the humblest cottage, as well as the mechanism of the electric baths, etc., of the expensive sanitarium, are given in minute detail. The numbered paragraph makes a reference to the treatment of any phase of a disease readily accessible. This book is worth many times its price to every physician, surgeon, or specialist.

J. H.

The Medical Annual.—A year-book of treatment and practitioners' index. 1906. 24th year. Bristol: John Wright & Co., Stone Bridge. London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd. Toronto: J. A. Carveth & Co.

It is quite late in its appearance, owing to exceptional difficulties. The Medical Annual for 1906 has come to hand. The volume is larger than that of any former year, and is replete with many of the most recent discoveries in medical science. Among the contributors are Drs. Jos. Blumfield, Victor Bonney, E. H. Fenwick, Fredk. Gardner, E. W. Goodall, Wilfred Jas. Hadley, Jos. Priestley, A. W. Mayo Robson, Purves Stewart, Boardman Reed, Ralph Stockman, Norman Walker, and P. Watson Williams.

The Medical Annual has for some time now been always a most welcome yearly addition to many an active practitioner's library, and that of 1906 will be no exception to the rule. It may be looked upon with its predecessors as a complete exposition of the present position of medical science.

W. A. Y.

The Chemistry, Physiology, and Pathology of Uric Acid, and the Physiologically Important Purin Bodies, with a discussion on The Metabolism in Gout. By FRANCIS H. MCCRUDDEN. From Paul B. Hoeber, 69 E. 59th St., New York.

This work, by an American, is a praiseworthy contribution to medical science. The author says, *inter alia*: "I have made a thorough study of the pure chemistry of uric acid and of its de-

composition products, and of those purin bodies which have physiological importance, of the behavior of uric acid in solutions of pure water, in the solution of simple and mixed electrolytes, and of organic compounds, and on the urine and blood. I have attempted to study all the research that has been done in the physiology of uric acid, the effects of food, and of the qualitative and quantitative change with food, the effects of alcohol, exercise and other physiological functions, and also the research on uric acid in pathological conditions of all kinds, especially in gout. I have also studied the work on the General Metabolism in Gout."

The author is not a theorist. He says: "I have adhered closely to an exact statement of experimental data throughout, and have ventured in but few cases to propound a theoretical explanation of the facts, relying on the arrangements of the facts themselves to bring out the explanation."

Dr. McCrudden is not optimistic as to the effects of drugs on the uric acid present in the human economy, saying at p. 257: "It is probably quite true that there is no drug which we can say either decreases the formation of uric acid, furthurs its excretion, hastens its further oxidation or increases its solubility in the blood or tissue fluids."

All of which is doubtless true. However, when all is said, the experiments which have been made upon the metabolism of gouty subjects all fail to afford any rational basis for the therapeutic use of colchicums, yet it is found by unprejudiced observers to be the physician's sheet anchor, at any rate in the acute stages of gout.

J. J. C.

Green's Encyclopædia and Dictionary of Medicine and Surgery.

Vol. I. Aachen-Brain. Edinburgh and London: William Green & Sons.

As the name would indicate, this is an alphabetically arrayed repertory of information on all subjects, medical and surgical, this volume being but the first of ten large Imp. Svo. volumes. The series will consist of over 10,000 separate articles, written by the most competent authorities, and to a large extent incorporating the "Encyclopædia Medica." The work in compiling such a library, and condensing that amount of material into ten volumes is a mammoth one; but the mere fact that it has been undertaken by a publishing house of the standing of William Green & Sons, means that it will be carried to a successful conclusion.

The first point that strikes the reader of volume one is that the authors have determined to boil down everything, so that the physician, on consulting any particular chapter, gets at once the gist of his subject, a most important point for a busy man.

Though this is the case, the work shows also a completeness and correctness that is most satisfactory. Cross references have also been freely used, adding to the literary value of the book. Volume one takes in practically everything from the letters *Nachen* to *Brain*. It would be impossible to anything like even in part enumerate what each volume contains, suffice it to say that each is a *multum in parvo*, and worth a great deal more than the price asked for the entire set, viz., \$25.50, payable if desired in instalments, and to be had from the Canadian Law Book Co., Toronto, who are Canadian agents.

W. A. Y.

The Nature and Treatment of Cancer. (Some methods of Hypodermic Medication in the treatment of inoperable Cancer.) By JOHN A. SHAW-MACKENZIE, M.D., Lond. Third Edition, Revised and Enlarged. London: Bailliere, Tindall & Cox, 8 Henrietta Street, Covent Garden. 1906. (All rights reserved.) Canadian Agents: J. A. Carveth & Co., Ltd., Toronto.

Every book on this subject must attract attention. Hypodermic medication in the treatment of inoperable cancer has been written on by this author before. This book is rather an elaboration of his former writings: it has all the advantages of the former book with a large amount of added experience and also some distinctly new ideas, among which I would particularly mention the pancreatic treatment. The writer is very much in earnest in what he says, and this book will be read with a great deal of interest by a very large number of people.

A. J. J.

Lectures on Clinical Psychiatry. By DR. EMIL KRAPELIN, Professor of Psychiatry in the University of Munich. Authorized translation from the second German edition. Revised and edited by Thomas Johnston, M.D., Edin., M.R.C.P., Lond. Member of the Medico-Psychological Association of Great Britain and Ireland. Second English Edition. London: Bailliere, Tindall & Cox, 8 Henrietta Street, Covent Garden. Canadian Agents: J. A. Carveth & Co., 1906.

This series of lectures cannot fail to be of the greatest interest and use to any serious student of mental diseases, although the author does not desire them to be regarded as a text-book of alienism, but rather as a guide to the clinical investigation of the insane. Professor Krapelin is one of the most eminent living alienists, and his Clinic is always a chief part of the quest of an English or American visitor to the Continental Schools. Like many other earnest investigators he has introduced a classi-

fication of mental diseases which seems to him adequate, and which has been largely adopted in Europe and America, though differing somewhat in simplicity and clearness from that of Clouston and most of the English teachers. The author fully appreciates the difficulty which always confronts the clinical lecturer on mental diseases of only being able to portray one phase of the form of disease under consideration, namely, that existing at the time of the clinical examination: and that for the complete elucidation of the case often extending over a period of many months, further examinations and lectures become necessary. These wonderfully descriptive clinical pictures will have an absorbing charm for many students of mental diseases.

N. H. B.

Prophylaxis and Treatment of Internal Diseases. By FREDERICK FORCHHEIMER, M.D., Professor of Theory and Practice of Medicine and Clinical Medicine, Medical College of Ohio, University of Cincinnati, Cincinnati, Ohio. Cloth, price \$5.00 net.

This is an eminently practical work, one which concerns itself diligently with the business in hand. It first lays down broad principles, then details the special applications of them, where possible: failing that, it indicates the proper direction for their application.

It is essentially a work of breadth. It is also essentially a work of experience. Free from dogmatism, there is the calm assurance of one to whom the path is familiar. In these days of therapeutic pessimism, it is refreshing to find a practical physician to whom the making of a correct diagnosis is but the beginning rather than the end of his craft.

Dr. Forchheimer undertook a difficult task, but we believe that he has given us a most excellent work—one that will have a large sale to the general practitioner—a book which has long been in demand.

Progressive Medicine. A quarterly digest of advances, discoveries, and improvements in the medical and surgical sciences. Edited by HOBART AMORY HARE, M.D., assisted by H. R. M. LAUBES, M.D. Philadelphia and New York: Lea Brothers & Co. June, 1906.

The contents of this interesting and instructive volume include reviews on hernia, surgery of the abdomen, various subjects connected with gynecology, diseases of the blood, spleen, thyroid gland and lymphatic system, and on ophthalmology.

In the section on gynecology there is a careful and elaborate review of the literature on carcinoma of the uterus. Dr. Clark

says that the etiology of carcinoma has been freely discussed recently. This discussion only serves to emphasize the fact that the cause of carcinoma is still unknown, and proves that no theory has been substantiated. He also says that an early diagnosis is the most important factor in the prognosis, and is more important than the technique of the operation.

In diseases of the blood we have an interesting review of the literature of pernicious anemia. Other articles treat on diabetes, gout, and exophthalmic goitre. In treating patients with exophthalmic goitre Christian gives the blood of thyroidectomized goats. The blood was desiccated and given in tablet form, and the results are encouraging.

The section on ophthalmology is full of interest, and contains among other topics discussions on conjunctivitis and trachoma.

A. E.

Handbook of Meat Inspection. By DR. ROBERT OSTERTAG, Professor in the Veterinary High School at Berlin. With 260 Illustrations and one colored plate. Authorized Translation by Earley Vernon Wilcox, A.M., Ph.D., Veterinary Editor *Experiment Station Record*. With an Introduction by John R. Mohler, A.M., V.M.D., Chief of Pathological Division United States Bureau of Animal Industry. New York: William R. Jenkins, Veterinary Publisher and Bookseller, 851-853 Sixth Avenue. 1904.

It is high time that the subject of meat inspection, done by competent inspectors, was earnestly discussed in the Canadian medical press. In Canada there is no real inspection of meats intended for export, nor of meats intended for home consumption either.

We think that the municipal authorities should exercise the right to erect a slaughter house and compel butchers to slaughter in it, and, accordingly, to forbid the further use of private slaughter houses.

Section 9, Schedule B of the Ontario Public Health Act provides, *inter alia*, that all animals to be slaughtered and all fresh meat exposed for sale in the municipality shall be subject to like inspection. This excellent rule has been neglected, and is practically a dead letter.

A beginning of *bona fide* meat inspection should be made in the larger cities of this Province, in some of which there are several concerns engaged in the preparation of meat products, as well as large supplies of meats for domestic use. Dr. Ostertag's fine book, in its English dress, would then become the meat inspectors' handbook. The English translation by Dr. E. V. Wilcox is creditably done.

J. J. C.

A Treatise on Surgery. In two volumes. By GEORGE R. FOWLER, M.D., Examiner in Surgery, Board of Medical Examiners of the Regents of the University of the State of New York; Emeritus Professor of Surgery in the New York Polyclinic, etc. Two imperial octavos of 725 pages each, with 888 text illustrations and 4 colored plates, all original. Philadelphia and London: W. B. Saunders Company. Canadian Agents, J. A. Carveth & Co., Limited, 434 Yonge Street, Toronto. 1906. Per set: Cloth \$15.00 net; half morocco, \$17.00 net.

Following upon our review in "May" of volume one of this splendid work, we have received the second volume, and lose no time in expressing the pleasure we have had in carefully perusing it. Fowler's Surgery as a work will be hard to excel for years to come, as it is wonderfully complete and yet not verbose.

Volume 2 continues Regional Surgery. It takes up surgery of the Dorsal and Lumbar Vertebrae, Surgery of the Abdominal and Pelvic Regions, Surgery of the Female Pelvic Organs, and Surgery of the upper and lower extremities.

The university authorities should not lose any time in adding Fowler to the list of recommended Text-Books.

W. A. Y.

Physiology of the Nervous System. By J. P. MORAT, of the University of Lyons. Authorized English edition. Translated and edited by H. W. SYERS, M.A., M.D., (Catab). Physician to the Great Northern Central Hospital. With 263 illustrations (66 in colors). London: Archibald Constable & Co., Limited. 16 James St., Haymarket, S.W.

This work brings the subject before the reader in a clear and comprehensive way, and is the product of the latest research. The interdependence of the double currents of matter and energy, and the laws effecting their evolution, are skilfully worked out, and plainly expressed. The storehouse of energy which is replenished from the ingesta is drawn upon by the nervous system which does not in itself create force, but merely uses it whenever the organism requires it. To liberate this energy from the cellular storehouse, and to appropriately distribute it in accordance with the needs of the economy, constitutes one of the prominent functions of the nervous system, which the author lucidly describes. A full description is also given of the mechanism presiding over both voluntary and involuntary acts, and it is shown how the motor act arising either from external impressions immediate or remote, or from internal impulse or determination, is clearly designed for the protection and preservation of the individual. A most welcome attraction of this

treatise is the attention devoted to the functions of the nervous structures: an intimate knowledge of minute anatomy is an essential to the understanding of the functions, but Prof. Morat regards it as only the parent-stem, while the functions which are capable of modification are the fruit, and have a direct practical bearing upon the life of the race. It is true that the structure in a measure determines the character of the function, but it is also often true that by the function, the quality and repair of the structure is estimated. The section on Special Innervation deals exhaustively with the registration of sense impressions, their complexity and elaboration, and their importance as a source of instruction and protection. A concluding chapter of absorbing interest on Language and Ideation incidentally deals with psychological problems and offers suggestive scientific solutions. The paper, print and illustrations, many of which are colored, are all of the first quality, and in keeping with the general character of this excellent work.

On Leprosy and Fish-Eating.—A Statement of Facts and Explanations. By JONATHAN HUTCHINSON, F.R.S., F.R.C.S., etc. Archibald Constable & Co., London.

Mr. Jonathan Hutchinson's position upon the relationship of leprosy to the eating of decaying fish is well known to the readers of the *Lancet* and the *British Medical Journal*. For over forty years he has been a constant defender of the view first propounded by him. Since his first papers upon the subject the question has been to a certain extent cleared up by the discovery in 1874 of the Bacillus of Leprosy by Hansen, but on account of the inability to cultivate the bacillus or transmit the disease to other animals it seemed probable that there existed other conditions besides the actual presence of the bacillus.

This lack of positive knowledge, along with an enormous mass of accumulated facts, has confirmed Mr. Hutchinson in his belief in the etiological role of putrid fish.

The book is an intensely interesting one, filled with information in regard to the diet of many peoples, which shows the enthusiasm with which the author has collected his facts for these many years, yet when one has finished it one is unconvinced. There is undoubtedly an X factor, as Von Pettenkofer would call it, in the etiology of Leprosy, and Mr. Hutchinson undoubtedly makes out a good case for putrid fish diet. But it is very doubtful if bacteriologists will be convinced by masses of statistics. They will withhold judgment until positive proof is offered. There is no doubt that sooner or later Leprosy will be successfully transmitted to some other animal than man, probably in

his blood relations the anthropoids, and when that is done the X factor will be discovered, but not till then. It is curious that Mr. Hutchins on does not refer to the possibility of an intermediate insect host, especially with the recent work before him upon Malaria, Yellow Fever, Sleeping Sickness and Fish Fever. Yet recent press dispatches announce a discovery in Hawaii that the bed-bug is the intermediate host for the bacillus. This seems very likely, specially when one remembers how the leprous tissues absolutely swarm with the organism.

In spite, however, of not being convinced by the book we may say we have read it through with very great interest, and can confidently recommend a perusal of it.

A. J. J.

Carolina Lee. By LILLIAN BELL. Toronto: The Copp, Clark Co., Limited.

Story book months, and so many trifles light as air to choose from. Many physicians visited Boston, last month to attend the American Medical Association meeting, and just at its close the Christian Scientists convened, and for the first time perhaps the real scientists embodied in the medical men viewed *en masse*, the self named scientists with the prefix. A rather interesting little southern story, tangled around the belief in christian science, with its heroine a true convert, has been told by LILLIAN BELL, in her latest book "Carolina Lee." Many doctors who hesitated to use their spare moments perusing Mrs. Eddy's large book, called *Science and Health*, from cover to cover, will find its principles and precepts attractively inculcated in this story, and we pledge it pleasant reading—a capsule in a chocolate drop.

W. A. Y.

The Practical Medicine Series, comprising ten volumes on the year's progress in Medicine and Surgery, under the general editorial charge of GUSTAVUS P. HEAD, M.D., Professor of Laryngology and Rhinology, Chicago Post Graduate Medical School. Vol. I. "General Medicine," edited by FRANK BILLINGS, M.S., M.D., Head of Medical Department and Dean of the Faculty of Rush Medical College, Chicago, and J. H. Salisbury, A.M., M.D., Professor of Medicine, Chicago Clinical School. Series 1906. Chicago: The Year Book Publishers, 40 Dearborn Street.

No one can open this book without feeling that the writer has practically left little to be said about any disease that he describes. The first one hundred and ten pages are devoted to a thorough consideration of tuberculosis, and is a most up-to-date history and full of the most recent and valuable suggestions. The next hundred pages is devoted to other diseases of the chest. These two

make up rather more than half of the book. In every article the best recent opinions seem to have been selected. Treatment is thoroughly gone into, and this of itself must be a great relief to many readers. Like the other volumes of this series articles are so arranged that the reader is constantly interested in the subject before him, and when he has finished it feels that many matters perhaps have been presented to him in such a forcible manner as to lead him to adopt measures, which although he may have heard of before, he never has seriously considered. A. J. J.

Lucy of the Stars. By FREDERICK PALMER. Toronto: McLeod & Allen, Publishers.

"Yes, you would bring something which kings cannot confer or millionaires buy, that little something in the nature which is lovable, that little something in the mind—found only in a woman's mind—which is the greatest charm of the universe." That charm has been caught and transferred to paper by the facile pen of Frederick Palmer, and his little heroine sings herself into the hearts of all with her quaint never care songs, just listen:

"If you have a heart afraid to play the game,
Then that heart was meant for hanging in a frame; never
care, never care."

The Operating Room and the Patient. By RUSSELL S. FOWLER, M.D., Surgeon to the German Hospital, Brooklyn. Philadelphia: W. B. Saunders Co. 1906. Canadian Agents: J. A. Carveth & Co., Ltd., Toronto.

A few years ago a distinguished surgeon, then President of the British Medical Association, after a visit to this side of the Atlantic, wrote that to see the best technique in antiseptic surgery one must perforce go to America rather than to British or Continental hospitals. What he saw and appreciated is better described in the work before us than in any other known to the writer of this review. Simplicity with efficiency, the elimination of the superfluous, the exact division of duties, so as to admit of or rather to promote the best "team" in the operating room—these are among the points which impress the reader on a first and rapid examination. Studied more in detail, we find compactly and clearly stated just those thousand and one things which are scattered in journals, and which when required are so hard to locate. No proceeding is advised which has not been amply tested and proved to have real value.

A thought which came to the writer as he turned the pages of

this book was that we have all been slow to see the real importance of many points now forming a part of every-day work. Take, for example, the use of rubber gloves. Sir Thomas Watson suggested these more than half a century ago, and Halstead has used them since '89, but only for the last half dozen years have they been generally recognized as eliminating the chief dangers of wound infection. It is quite safe to say that there is not a hospital in Canada in which better work will not be done if this book be obtained and rightly used. One may go further and claim that there is not a surgeon who will fail to receive benefit by such a review of his knowledge as its careful reading can afford.

N. A. P.

Beverley of Graustark. By GEORGE BARR McCUTCHEON, author of "Graustark," "The Sherrods," etc., with illustrations by Harrison Fisher. Toronto: McLeod and Allen, 1904. A crisp, bright tale for the physician's week-end jaunt.

The author takes us back to that wonderful little Duchy of Graustark, in the far east, with its placid valleys and rugged mountains, full of thrills and dangers. There the beautiful daughter of a Carolina Midas meets with numerous strange and hair-raising adventures, which holds the reader breathless with interest from the drop of the hat until he passes the wire.

W. N. P.

A Compend of Operative Gynecology, based on Lectures in the Course of Operative Gynecology on the Cadaver at the New York Post Graduate Medical School and Hospital, delivered by WILLIAM SEAMAN BALNBRIDGE, M.D., Adjunct Professor of Operative Gynecology on the Cadaver, New York Post Graduate Medical School and Hospital; Consulting Gynecologist, St Mary's Hospital, Jamaica, L.I.; Consulting Gynecologist to St. Andrew's Convalescent Hospital, New York, etc. Compiled with additional Notes in Collaboration with Harold D. Meeker, M.D., Instructor in Operative Gynecology on the Cadaver, New York Post Graduate Medical School and Hospital; Assistant, Department of Gynecology Vanderbilt Clinic, College of Physicians and Surgeons, New York. 12mo. Cloth, 76 pages. Price \$1.00 net. New York City: The Grafton Press Publishers.

Practically this is a guide to operative gynecology as practised on the cadaver. The technique of operations is well described, and if a student would learn it by heart he would probably be fairly familiar with the operations herein detailed. Every young surgeon, particularly those practising in the country, will find this book of very great value, especially when called upon to perform

operations with which they are not very familiar, as it is such a perfect compend that a general idea of almost any operation can be obtained in five minutes.

A. J. J.

Students' Handbook of Operative Surgery. By WILLIAM IRELAND DE C. WHEELER (M.D.), B.A., M.D. (Dub. Univ.), F.R.C.S., Surgeon to Mercer's Hospital. Ex-demonstrator of Anatomy, Trinity College, Dublin. Dublin: Bailliere, Tindall and Cox, 8 Henrietta Street, Covent Garden. 1906.

This little treatise of 300 pages is well written and is a trustworthy guide for the student who is taking a course in Operative Surgery. The author does not profess to do more than supply a text book for student purposes and he has succeeded admirably in covering quite an extensive field; describing the technique of various operations in the different regions of the body in a concise and clear manner. The book will doubtless be found useful to those preparing for examination.

A. P.

The International Medical Annual. A Year Book of Treatment and Practitioner's Index. Contributors: Jos. Blumfield, M.D., Cantab.; Victor Bonney, M.S., M.D., F.R.C.S.; Prof. J. Rose Bradford, D.Sc., M.D.; Prof. A. H. Carter, M.Sc., M.D., F.R.C.P.; Frank J. Charteris, M.B., Ph.B.; Charles C. Easterbrook, M.A., M.D., F.R.C.P.; Ed. Jos. G. Emmanuel, B.Sc., M.D.; E. Hurry Fenwick, F.R.C.S.; Fredk. Gardner, B.Sc., M.D., F.R.C.S.; Edward W. Goodall, M.D.; Wilfred James Hadley, M.D., F.R.C.P., F.R.C.S.; G. Armauer Hanson, M.D., Bergen; Robert Hutchison, M.D., F.R.C.P.; Priestley Leech, M.D., F.R.C.S.; Jas. Kerr Love, M.D.; Harold F. Mole, F.R.C.S.; E. Reginald Morton, M.D., C.M., F.R.C.S.; Prof. P. Lockhart Mummery, B.S., F.R.C.S.; Jos. Priestley, B.A., M.D., D.P.H.; Walther E. Rahte, M.D.; Philadelphia; Prof. Boardman Reed, M.D., Philadelphia; Prof. A. W. Mayo Robson, D.Sc., F.R.C.S.; G. W. Watson, Stephens, M.D., B.Ch., D.P.H.; Purves Stewart, M.A., Ed., M.D.; Geo. Fred. Still, M.A., M.D., F.R.C.P.; Prof. Ralph Stockman, M.D., F.R.C.P.E.; A. Hugh Thompson, M.A., M.D., M.R.C.S.; J. W. Thompson Walker, M.B., F.R.C.S.; Norman Walker, M.D.; Prof. Wertheim, M.D., Vienna; P. Watson Williams, M.D., M.R.C.S. 1906. Twenty-fourth Year. New York: E. B. Treat & Company, 241-243 West Twenty-third Street. \$3.00.

The present issue of the *International Medical Annual* is similar in bulk to the last issue, which was the first of the enlarged series. The names of the contributors are a guarantee of the high

quality of the articles in this volume. The first eighty pages are devoted to a dictionary of *Materia Medica* and *Therapeutics*.

The Dictionary of Treatment, arranged alphabetically, gives a review of medical and surgical progress for 1905, by many contributors, in 475 pages. Part III. contains some references to Sanitary Science. Though a little late in appearing this year, the *International Medical Annual* is as welcome as ever.

J. J. C.

The Delinicator for October.—The strongest feature of the October *Delinicator*, aside from the fashions, which are splendidly shown, is the opening of the Countess von Arnhim's new serial story, "Fraulein Schmidt and Mr. Anstruther." It is now publicly announced that the Countess von Arnhim is the author of "Elizabeth and her German Garden." The serial stories, "The Diary of a Baby," by Barry Pain, and "The Chauffeur and the Chaperon," by the Williamsons, merrily continue. J. J. Bell contributes another "Wee Maegregor" episode, and other contributors of short stories the Ralph Henry Barbour, George Middleton, Florence E. Wilkinson and Bonnie A. Nedwill. John Vance Cheney is represented by a poem, "Hallowe'en." The kitchen department, under the direction of M. Jean Marie Devaux, presents the second course of "A Perfect Dinner," some "Recipes for Cooking Game," more "Favorite Recipes of Famous People," and seasonable advice about peppers, melons and grapes; the continuation of "A Culinary Dictionary," and the beginning of a series "Around the World in Eighty Dishes." Seasonable suggestions for entertainments may be found in "The Practical Side of Amateur Theatricals," by Sarah Comstock, "A Paper Party," and "Hallowe'en Merrymaking for Girls and Boys." Subjects of vital importance are treated in the papers, "Coloring a Life," by Lida A. Churchill, "The Art of Pleasing," by Edgar Saltus, "More Courtship After Marriage," and "A Royal Road to Perfect Memory," by William George Jordan. The departments, "The Money-makers" and "The Wisdom of Many" contains many original, as well as sensible ideas.

A Non-surgical Treatise on the Diseases of the Prostate Gland and Adneca. By GEORGE WHITEFIELD OVERALL, A.B., M.D. Chicago: Rowe Publishing Co. 1906. pp. 228.

The title of this book is a misnomer. The writer would have all surgical procedures restricted to the use of the knife. The curious fact is that he is an ardent exponent of the theory that prostatic hypertrophy can be cured by cataphoresis and he would have us believe that his method is the only salvation for the unfortunate sufferers from prostatic disease. It may be in one sense that his methods are non-surgical because they are possibly non-scientific, but on no other ground can he designate his treatment "non-surgi-

cal." He entirely overlooks the brilliant results which have been attained by supra-pubic prostatectomy in properly selected cases and has the effrontery to state that the results of such procedures "have been either utterly unsatisfactory or at least equivocal." It is impossible and unnecessary to discuss the attitude assumed by one so absolutely ignorant of the magnificent results which have been obtained by operative methods in this field of surgery. Whatever may be said for cataphoresis as a method of treatment we may assume that the profession are sufficiently experienced or sufficiently well informed regarding the operation of prostatectomy to prevent them being misled by such seemingly absurd statements.

A. P.

Heart Disease and Aneurysm of the Aorta. By SIR WILLIAM H. BROADBENT, Bart., K.C.V.O., and JOHN F. H. BROADBENT, M.D., F.R.C.P. Fourth edition. London: Baillière, Tindall and Cox. 1906.

That a medical book should have reached the fourth edition in nine years is strong evidence in its favor. Broadbent's *Heart Disease* would appear to be the work of careful, observing, clinicians. It is popular with practitioners and justly so.

In the fourth edition John F. H. Broadbent has re-arranged the subject matter and has added chapters on the pulse, disease of the coronary arteries, bradycardia, and atheroma of the aorta. He has also re-written the chapters on acute and pernicious endocarditis, the chapters on affections of the myocardium and that one on affections of the pericardium.

Sir William Broadbent has made additions to the chapters on angina pectoris and functional disorders of the heart.

This work evidently represents the first-hand experience of skilled observers of heart disease, men who speak with authority.

J. J. C.

Ellis's Demonstrations of Anatomy, being a guide to the knowledge of the human body by dissection. Twelfth edition. Revised and edited by CHRISTOPHER ADDISON, M.D., B.S. (Lond.), F.R.C.S., Lecturer on Anatomy, Charing Cross Hospital, Medical School; formerly Hunterian Professor, Royal College of Surgeons, England; Examiner in Anatomy, Royal College of Surgeons, England, etc. Illustrated by 306 engravings on wood, of which a large number are in colors. Octavo volume, 861 pages. Price, muslin binding, \$3.50 net. New York: William Wood & Company, Publishers. 1906.

It is not necessary to review in detail this well-known text book. Suffice it to say that among all the books which have appeared in recent years as practical guides to the dissection of the human body, and many excellent ones have been published, we know of no better

than that entitled "Ellis's Demonstrations of Anatomy." The present edition has been thoroughly revised and brought up to date by Christopher Addison, M.D., B.S. (Lond.), F.R.C.S. We can recommend the book without any reservation as one of the best guides to practical anatomy available.

A. R.

Comparative Otology—Surgical Pathology and Treatment of Diseases of the Ear. By CLARENCE JOHN BLAKE, M.D., Professor of Otology in Harvard University, and Harry Ottridge Reik, M.D., Associate in Ophthalmology and Otology, Johns Hopkins University. New York and London: D. Appleton & Co. 1906. Canadian Agents: Geo. W. Morang Co., Ltd., Toronto.

This is not a review of the literature of the subject, but rather a record of individual experience, and therefore so much the more valuable, for nowadays medical books which are records of individual experience are few and far between. Its aim is practical utility: this, with an evident desire to present the subject as simply as possible, has led to a book which is not beyond the student, but is of value to him, the general practitioner and the specialist. We commend it for its clearness of statement, scientific accuracy, and some clinical judgment.

J. M.

The Autotoxicoses: Their Theory, Pathology, and Treatment. By HEINRICH STERN, Ph., M.D., New York, Professor of Special Medical Pathology and Therapy in the College of Physicians and Surgeons, Boston; Director of the Institute for Medical Diagnosis and Research in the City of New York; Physician-in-Chief Philanthropin Hospital of the City of New York; Pediatricist and Pathologist Misericordia Hospital and the Hartsdale Infirmary; Consulting Physician Metropolitan and Red Cross Hospitals; Chairman Section on Pharmacology American Medical Association; Permanent Member Medical Society of the State of New York; Fellow New York Academy of Medicine, etc., etc. Chicago: G. P. Engelhard & Company. 1906.

Dr. Stern objects to the off-hand diagnosis of autointoxication so common at the present time. He has recognized the difficulties of making such a diagnosis in a great many cases, and in the present work he endeavors to place the subject on a more rational basis.

The first part of the book treats of autointoxication in its various forms. The author draws a clear distinction between "toxicoses" and "autotoxicoses," and shows that differential diagnosis between enterogenous autotoxicoses and ectogenous toxicoses is often impossible.

The second part of the book is devoted to the therapy of auto-intoxications. As one might expect in a work of this kind, there are a great many therapeutic suggestions of great interest. On page 168 we find a specific influence attributed to vaccine virus upon catabolic nucleolysis, and the statement that a successful vaccination almost always promptly disperses "lithemic" conditions not due to the mode of living, that the "heavy limbs," mental depression and pain vanish, the natural vigor returns and body weight increases in emaciated individuals. Again on page 177 we find that arsenic taken with thyroid prevents the deleterious effects of the latter. The work is rather difficult to follow at times owing to its technical nature, but the author has included a glossary to help out in this respect. It is a work of 221 pages, including glossary, references and index.

J. J. C.

The Health-Care of the Baby—A Handbook for Mothers and Nurses. By LOUIS FISCHER, M.D. 12mo., Cloth—166 pages. New York and London. Funk & Wagnalls Co.

This book contains many useful hints as to the management of the babe in health and disease. Details as to ventilation, clothing, bathing, etc., which every mother and nurse should know all about. The most important subject treated of is Infant Feeding, more particularly when the stomach and bowels are out of order. Some suggestions in cases of injury, poisoning and the numerous accidents which all children are more or less prone to, and the management of bad habits in children, are all of value.

Every mother as well as every nurse should know all that this book contains, and the subjects are so arranged that any particular point can be picked up at once.

A vast majority of young doctors could read this little book with immense advantage, and find as a result that they had a groundwork of most necessary, and none the less valuable because "simple" data, upon which to build from more extensive text-books.

Treatise on Diseases of the Skin, for the use of advanced students and practitioners. By HENRY W. STELWAGON, M.D., Ph.D. 4th edition, thoroughly revised. Philadelphia and London. W. B. Saunders & Co. Canadian Agents, J. A. Carveth Co., Ltd., Toronto.

The branch of Dermatology now occupies such an important position in the various medical colleges that a work in diseases of the skin is always of great interest, not only to students, but to the entire medical profession. Stelwagon's "Diseases of the

Skin" is now upon the fourth edition, and no doubt will prove more popular than ever.

The manner in which the author divides the subject is most practical as well as scientific. The chapter of the histology and physiology of the skin is exceedingly clear, and by the aid of the plates is greatly simplified.

The part on "General Remarks of Treatment" is of valuable assistance to practitioners, as the most modern methods of treatment are taken up and many excellent suggestions given. The electrotherapeutic treatment by means of X-ray, high frequency current and Finsen light has been thoroughly discussed in a manner which will be of much aid to all in treatment of diseases of the skin.

The work simply must be read to be appreciated, for the general manner of description is clear and thoroughly practical, and a subject which has many difficulties is greatly simplified.

D. K. S.

Forthcoming Books.—The Cleveland Press, Chicago, Ill., ask us to announce that the following books will issue from their press rooms in the immediate future. They include: "Hospital Organization," "Hospital Construction," "Hospital Management," "The Technique of Modern Operations for Hernia," by Alex. Hugh Ferguson, M.B., M.D., Prof. of Clinical Surgery, University of Illinois. "A practical Guidebook on Every Day Surgery and Surgical Handicraft," by A. Hamilton Livings, Prof. of the Principles and Practice of Surgery in the Wisconsin College of Physicians and Surgeons. "Practical Dermatology," by Bernard Wolff, M.D., Clinical Professor of Diseases of the Skin in the Atlanta College of Physicians and Surgeons.

Treatment of Gonorrhoea in the Male. By C. LEEDHAM-GREEN, M.B., Heidelberg, F.R.C.S., London, senior surgeon to the out-door patients, Queen's Hospital, etc. Bailliere, Tindall & Cox. J. A. Carveth & Co. 1906. Price \$1.50.

This is a monograph of 150 pages, upon the treatment of gonorrhoea, based upon the pathology and anatomy of the parts.

The line of treatment, essentially a careful management of each case, follows from the anatomical diagnosis accurately localized. Specifics and abortives are given over to the careless diagnostician.

References are made to many foreign authors, whose publications would be unlikely to come within the reach of the average practitioner.

The involvement of the prostate, the proof of cure, and its

relation to marriage, are some of the many features of this book.

Its great value does not lie in new ideas, because there are none to be given, but in its scientific soundness, clearness, and practical application. It ought to be of great assistance to every practitioner.

A. J. J.

Osborne's Introduction to Materia Medica and Pharmacology.

An introduction to the study of Materia Medica and Pharmacology, including the Elements of Medical Pharmacy, Prescription Writing, Medical Latin, Toxicology and Methods of Local Treatment. For the use of Students of Medicine and Pharmacy. By OLIVER T. OSBORNE, A.M., M.D., Professor of Materia Medica, Therapeutics and Clinical Medicine in Yale University, ex-President of the American Therapeutic Association, etc. In one 12mo vol. of 167 pages. Cloth, \$1.00 net. Philadelphia and New York. Lea Brothers Co., Publishers. 1906.

The object of the author is to introduce the student to the study of Materia Medica and Therapeutics from a practical standpoint. There is a short section on Experimental Pharmacology; another on the action of Important Drugs. There is a dosage table, and a section on poisons, weights and measures and Latin abbreviations. A useful book of its kind.

A. J. H.

New Serum Therapy. By D. MONTGOMERY PATON, L.R.C.S., and L.R.C.P., Ed. Price, \$1.75. London: Bailliere, Tindall & Cox, publishers. Canadian Agents: J. A. Carveth & Co.

The New Serum Therapy, by Montgomery Paton, forms a book of interesting reading, and whether we agree with his conclusions or not it opens up a comparatively new field for therapeutical investigation.

The author of this book does not claim that he is the discoverer of a new remedy or even of a new method of administering an old one, but he has undoubtedly pushed and extended the use of the serum treatment to many diseases for which it had not previously been used and claims results that are astounding, and we only hope all practitioners may be able to bear testimony to his claims.

His method of administration is orally and he holds that thus administered it is as effective or more so than when given hypodermically. The writer makes the emphatic statement that if antidiphtheretic serum is administered properly and in time it is a specific for all inflammatory conditions of the first stage, that is before the tissues have broken down and pus formed. Antidiphtheretic serum will cure all inflammatory conditions ex-

cept tubercle syphilis, pneumonia, gonorrhoea, malaria and locomotor ataxia. The list of cases cured by him included the following: Acute bursetes, pain relieved and fever gone by three doses. Felon from poison of finger-wound, extending to axillary glands, cured in four days. Quinsy, pleure-sy, phlegmased alla dolens, peritonitis. (Appendicitis, pain and vomiting relieved by a single dose, cured by 30 doses.) Arthritis deformans, broncho pneumonia, cholecystitis, diphtheria, erysipelas, dysmenorrhoea, endometritis, menorrhagic salpingitis, acute nephritis, and cerebrospinal meningitis. In midwifery, sepsis mostitis. Rheumatic polyarthritis, acute neuritis and tritis, skin diseases, furmeels, acne vulgaris, eczema and panphigus, tonsillitis and rhinitis, and signovitis and joint inflammations.

The theory of cure is that the Serum restores the blood vessels, giving its muscular elements tone and a resisting power against the invasion of microbes. His plan of treatment is simple and is practically the same for all diseases, and is as follows:

"For acute conditions, 1 drachm of Serum alone, and every half hour or hour for three or four doses. Then every two or four hours as required. For less acute cases, 1 drachm four times a day is generally sufficient." The Antidiphtheretic Serum used is 6,000 units to the ounce, 1 drachm doses as above.

Expense will be the only thing to prevent the testing of each and every example cited by the author. J. H.

Study, Treatment, and Prevention of Tuberculosis. Second Annual Report of the Henry Phipps Institute, Philadelphia.

This extensive report of four hundred and fifty pages opens with a full account of the work of the year by Dr. Flick, the Medical Director. "To restore these poor people to health without material aid is out of the question. To keep them well without material aid after they have been restored to health is almost equally hopeless. Occasionally one gets well who can stand alone and maintain his health through his own resources. Most of them, however, go under unless assisted." "The good comes from the prevention which is brought about. Treatment of these poor people and prolongation of life give opportunity to teach those who have the disease and those about them methods of prevention. The fruit of the labor is in the saving of those who are still in health."

The autopsy findings in the various organs are then given in detail. A very full report on the method of production and use of Maragliano's serum follows. The results from its use were not favorable. Much experimental work on immunization of animals against tuberculosis was done, and the lengthy report of the processes and results forms an interesting section.

The Henry Phipps Institute is the most important institution on this continent for research work in tuberculosis, and for carrying on charitable work among the poor. It is thus both an admirable charity and a scientific institution, whose aim is to extend our knowledge of the conditions which restrict the spread of infection.

A. M'P.

The Diseases of the Nose and its Accessory Sinuses. By H. LAMBERT LACK, M.D. (London), F.R.C.S., Surgeon to the Throat Department of the London Hospital; Surgeon to the Golden Square Throat Hospital. 124 illustrations. London: Longmans, Green & Co. 25 shillings. 1906. Canadian Agents, J. A. Carveth & Co., Ltd., Toronto.

As an example of what a medical book ought to be in the matter of paper, printing, excellence of illustrations, this may be commended to the attention of American publishers. The excellence of the bookmaking is merited by the worth of the book itself. Pathology and treatment are its strong points. Too often "treatment," as given in the text-books, bears the earmarks of want of experience, but here one constantly runs across what the English student calls "tips," which are most valuable. We venture to predict that this will be a favorite of practitioners and students.

J. M.

Manual of Diseases of the Ear, Nose and Throat. By JOHN JOHNSON KYLE, B.S., M.D., Clinical Professor of Otology, Rhinology and Laryngology in the Medical College of Indiana, Department of Medicine of Purdue University. Philadelphia: P. Blakiston's Son & Co. 1906. Ontario Agents: Chandler, Ingram & Bell, Ltd., Toronto.

One is particularly struck with the amount of material in this manual. On taking it up one expects to find the usual shortcomings of the manual. The embryology, anatomy and physiology of the ear, nose and nasal fossae, accessory sinuses, nose and throat bacteriology and pathology of the ear, nose and throat are all dealt with in separate and satisfying chapters. To methods of examination and therapeutics are devoted seventy-five pages. The modern advances in the treatment of deviations of the septum and of diseases of the accessory sinuses are well dealt with. Much information heretofore found only in the columns of special journals has been incorporated in the work.

J. M.

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Original Contributions.

ADDRESS IN MEDICINE.*

(Continued)

BY SIR JAMES BAIR, M.D., F.R.C.P., F.R.S.E.

Senior Physician to the Liverpool Royal Infirmary; Lecturer on Clinical Medicine, Liverpool University; Medical Visitor, Tuebrook Asylum; Visiting Physician, Haydock Lodge Asylum; Examiner in Medicine, Glasgow University.

THE ARTERIOLES AND CAPILLARIES OF THE KIDNEYS.

The arterioles are very muscular and well supplied with vaso-constrictor fibres, and thus while these nerves contribute to raise the general arterial pressure, they protect the capillaries of the glomeruli from any excessive pressure; thus high arterial pressure increases the velocity in the glomeruli, but not necessarily the lateral pressure. The glomeruli are further protected by the endothelial lining of Bowman's capsule, and are not easily permeable to albumen, but readily allow the transudation of water and salts. Moreover, the glomeruli are protected in ordinary circumstances from any backward venous pressure by the second set of capillaries into which the efferent vessels divide. In cases of orthostatic albuminuria there is defective vasomotor action in the whole of the splanchnic area, the kidneys are congested in the erect posture, and moreover the blood is deficient in lime salts as has been shown by Professor A. E. Wright, so the albumen more easily permeates the walls. Here, with the lessened velocity and lowered pressure, the concentration of the filtrate is increased.

The same local conditions occur in a more marked degree in inflammatory disturbances in the kidneys. We have seen that

*Delivered at the Seventy-fourth Annual Meeting of the British Medical Association, Toronto, August 21-25, 1906.

only a fourth or less of the capillary pressure is transmitted directly to the surrounding tissues in which they are imbedded, but in some pathological states the whole brunt of the arterial and capillary pressure is transmitted, and woe betide any organ when this pressure is long continued. In those large, congested, chocolate-colored kidneys, when the capsule is stretched to its utmost capacity, and the kidneys are nearly twice their normal weight, the transmitted pressure of the arteries and capillaries stops all secretion. The only salvation for such kidneys and their possessor is to freely incise the capsule and kidneys, as has been ably and persistently advocated by Mr. Reginald Harrison. When the pressure is relieved the secretion is at once re-established. This is a purely physical effect, and may occur in any organ where the limits of its expansion are exceeded. I have felt a big spleen pulsating in my hand till I thought it was going to burst; in this case the transmitted pressure was arterial. An inflamed gland often pulsates.

In granular kidneys the glomeruli are further protected by the increased thickness of Bowman's capsule; the velocity is much increased and the pressure only relatively so; the filtrate is bulky but not concentrated. There is nocturnal diuresis because in the horizontal posture, although there is a fall in the general arterial pressure, the arteries of the kidneys are dilated, and the total amount of blood circulating through them increased.

THE ARTERIOLES AND CAPILLARIES OF THE MUSCLES.

The arterioles are supplied with vaso-dilator nerves, and thus these vessels are reciprocal to those of the splanchnic area. The capillaries are arranged in a fine longitudinal network, and readily allow of the transudation of lymph. When there is a rise in the general arterial pressure these vessels are flushed and allow a free secretion. Dr. George Oliver has shown that during the height of the digestive flow of lymph, tension exercises of the muscles do not further raise the arterial pressure. The lymph in the limbs is not concentrated and is readily absorbed.

The splenic vessels are well supplied with vasomotor nerves, and the whole organ seems to have the power of contracting and of thus regulating its own blood supply. Adrenalin has a powerful effect in producing contraction.

THE CEREBRAL VESSELS.

The arteries and arterioles have relatively thin walls in proportion to their calibre. The inner coat is well developed; in the middle coat there is a moderate amount of muscular fibre but the elastic tissue is defective; the external coat is attenuated, and ceases before the muscular coat disappears and the arterioles pass

into the capillaries. The external coat is composed of connective and white fibrous tissue with longitudinal striation, and there are no elastic fibres. Robin described a lymphatic sheath over the arterioles, which strengthens them and helps to supply the place of the defective adventitia.

These vessels are not very contractile, and take no part in regulating the general arterial pressure. Owing to the stress and strain to which they are frequently submitted they are very liable to antheromatous and calcareous degeneration of the internal coat, and thickening or periarteritis of the external coat; there are also frequently small miliary aneurysms. Physiologists, as a rule, do not admit that these vessels possess any vasomotor nerve fibres, but Dr. Alexander Morison says that he discovered their presence; if so they must be very scanty, and perhaps only serve a trophic function. There is not a very great amount of muscular fibre on which they can act, and adrenalin does not cause any contraction of these vessels, of the coronary, or pulmonary arteries, as has been shown by Schäfer, Dixon, Brodie, and Elliott. The capillaries are small, short, well-supported vessels, which seem to be able to bear a considerable amount of strain, as Leonard Hill has shown that sometimes the pressure may be at zero and at other times when the head is down it may rise to 100 mm. of mercury. This latter condition must, however, be rather exceptional, as the carotid arteries have great contractile power. Professor MacWilliam has shown that *post mortem* the carotid can be easily made to contract to half its former diameter, and any one can easily satisfy himself as to the great variations which occur in life. Under these circumstances the circulation in the brain becomes largely kinetic, the velocity is enormously increased, but not the lateral pressure. The cerebro-spinal fluid is very deficient in proteid, from which we may infer that under ordinary circumstances the capillary velocity is relatively great and pressure slight. In cases of meningitis the proteid in the cerebro-spinal fluid is increased.

THE CORONARY VESSELS.

The arteries and arterioles which supply the heart closely resemble the cerebral vessels in being thin-walled, rather deficient in muscular fibre, and in having very few, if any, vasomotor nerves. They are also exceedingly prone to atheromatous and calcareous degeneration of the intima. Newell Martin, Roy, and Adami, and Alexander Morison have found some evidence of vasomotor nerves, but on the other hand, Schäfer, Dixon, Brodie, and Elliott have failed to get any response to adrenalin which acts on all muscular fibre innervated by the sympathetic. The portions of the arteries which are not subject to muscular compression,

and which consequently are constantly under the strain of the aortic pressure are very liable to degenerative changes, but the terminal portions of the arteries which are imbedded in muscle are not as a rule much affected. So when a coronary is blocked the heart may be supplied with blood from the venous side. In cases of stenosis of the tricuspid orifice the coronary veins are often much dilated, and form regular sinuses in the cardiac muscles.

THE PULMONARY CIRCULATION.

The pressure in the pulmonary artery is not more than one-third and the velocity of the blood about three-fourths of those respective conditions in the aorta; but, unlike the vena cava, the pressure in the pulmonic veins is always positive, so that the blood always enters the left side of the heart under pressure, while it is usually sucked into the right side. There is a gradual fall of the pressure-gradient from the right ventricle to the left auricle, and there does not seem to be much resistance to the circulation either in the arterioles or capillaries.

Bradford and Dean, and Francois Franck have shown by a series of very elaborate experiments that the pulmonic vessels are innervated; but while such innervation may be sufficient to maintain slight tone in the vessels, the experiments with adrenalin, to which I have before referred, would show that it cannot constrict the vessels so as to effectively increase the resistance.

The experiments of Lichtheim showed that the greater number of the branches of the pulmonary artery could be ligatured without lessening the input into the left heart or lowering the aortic pressure. But Cohnheim showed that this end was attained by increased work on the part of the right ventricle as demonstrated by the increased intraventricular pressure, and once this ventricle began to fail there was a sudden fall in the input to the left heart, and in the aortic pressure. Any diminution in the pulmonary vessels, such as occurs in pneumonia and in emphysema, increases the work of the right ventricle, but so long as it is able to meet the demand, the circulation is maintained. It is the failure of the right ventricle which is the principal cause of death in pneumonia. The pulmonic arteries are fairly well endowed with muscular fibre, and even after death have a considerable power of contraction so to drive the blood right on through the capillaries into the pulmonic veins.

If formaldehyde, which firmly clots the blood, be injected down the trachea after death, there will often be found firm thrombi in all the pulmonary veins, but not in the pulmonic arteries. It is therefore highly probable that any nerves which the pulmonic vessels may possess merely maintain the tone of the vessels or have a trophic effect. In cases of mitral stenosis the intrapul-

monic tension is raised throughout, and atheromatous changes are as common in the pulmonic veins as in the arteries.

Respiration renders great assistance in carrying on the circulation to the right side of the heart, and to a less extent to the left; that the assistance extends to the whole circulation is shown by the fall in the arterial pressure which occurs at the beginning of inspiration. In the so-called *pulsus paradoxus* (there is no paradox, but merely an exaggeration of a perfectly normal phenomenon), and in Müller's experiment of expanding the chest with the glottis shut, the pulse may disappear at the wrist. This is due to the sudden emptying of the veins to fill up the vacuum in the chest, and with this removal of the obstruction to the capillary flow there is a simultaneous depletion of the arteries. It is **not** due, as has been supposed by Kussmaul, to any kinking of the large vessels, nor to any sucking back of the blood into the aorta as has been imagined by those who seem to have forgotten that the pressure in the aorta is always high and cannot be affected by a negative pressure in the thorax. It is due to a certain fall in pressure affecting the veins, capillaries, and arteries, and it is most marked in cases of low arterial pressure. When the arterioles are much contracted and the arterial tension high, as in cases of Bright's disease, it does not occur. The lungs form a blood reservoir for the left side of the heart, and during this expansion the reservoir is increased and has to be filled up before the left side of the heart is sufficiently well supplied with blood to enable it to throw the proper quantities into the aorta at each systole; the arteries are therefore emptied at their distal end and not filled at their proximal end and so the pulse disappears until an equilibrium is restored. I recently had a very good example of this in a case of bradycardia under my care where the frequency of the pulse varied from twelve to twenty-four beats in the minute.

When Dr. John Hay, and my house-physician, Dr. Jones, were taking cardiographic and sphygmographic tracings I found that when the patient took a long deep breath and then held his chest expanded as long as possible, the following events occurred:

During the deep inspiration there were two beats of the heart and two pulses at the wrist, then the pulse disappeared in the carotid, brachial, radial, and femoral arteries, and remained absent for several beats. At the same time the impulse of the heart disappeared, and the clear loud first sound and systolic murmur were replaced by a low, dull-toned, obscure sound, and the second sound was not audible. After four or five faint systoles, which I attributed to the right ventricle, the clear first sound and systolic murmur, and the double second sound reappeared and were associated with a return of the pulse in all the arteries. Here, undoubtedly, the blood was stored up in the lung reservoir, and the proper systoles of the left ventricle and the pulse in the arteries

did not reappear until the reservoir overflowed. He had several attacks of semiconsciousness and one slight epileptic seizure during the periods of suspended breathing with the chest expanded. These attacks always occurred after the pulse had ceased for about twenty seconds.

In 1904 Dr. George Oliver gave a great stimulus to the study of the peripheral circulation by the publication of his admirable work on the tissue-lymph circulation. He showed that during the first hour of digestion there was a rise in the blood pressure—arterial, capillary, and venous—with a flow of lymph into the tissues; during this wave there might be a difference of 10 to 20 per cent. in the number of erythrocytes and haemoglobin between the mixture of blood and lymph obtained by a simple prick of the finger, and that of the pure capillary blood obtained from the same prick after the lymph had been compressed out of the finger.

He also showed that the same extracapillary lymph flow occurred in the muscles and prevented any further rise in the arterial pressure from tension exercises. His observations led him to the following conclusions: "(1) That the food constituents themselves (proteids, fats, and carbohydrates) do not possess the power of starting the mechanism by which lymph is dispensed to the tissues through the body. (2) That nature, however, associates with our foodstuffs small quantities of very active substances which bring into play that mechanism, though these substances themselves are practically devoid of food value, and that man frequently increases this natural lymph by the use of salt and beverages containing bodies which also incite the flow of lymph. Such bodies are uric acid, creatin, creatinin, xanthin, glycogen, and sodium chloride perform an important function in nutrition, for during digestion they act as distributors of lymph to all the tissues—an office which the nutrient constituents themselves (proteids, fats, and carbohydrates) are incapable of discharging."

Dr. Oliver associated the action of these lymphagogues with a rise in capillary blood pressure, but in 1891 Heidenhain had ascribed the action of such agents to a specific excitation of the secretory activities of the endothelial cells. We have before referred to the careful experimental work of Starling in 1893, by which he refuted the conclusion of Heidenhain and re-established the doctrine of filtration under pressure.

From not clearly recognizing how the *vis viva* is very variedly compounded (in the arteries, capillaries, and veins) of pressure and velocity, very many have had great difficulty in giving a satisfactory explanation of capillary filtration under pressure. They assume that the capillary pressure always stands somewhere between the arterial and venous pressures, and therefore, when

these two pressures are high so also should the capillary be high. We know that when a person is standing the arterial and venous pressures in the foot are higher than in any other part of the body, and therefore, according to this view the transudation should be greater, and we should have constantly more or less physiological oedema of the feet and ankles. Dr. George Oliver explains its absence by accepting the dictum of Starling that the capillaries are less permeable. No doubt the support, protection, and permeability, especially if they be damaged, of the capillaries vary in different parts of the body. The capillaries of the lungs and kidneys are well protected and not readily permeable to albumen. The capillaries of the limbs are more perfect and less permeable than those of the liver. The capillaries of the foot may be less numerous and better supported than those of the hand, but to assume that they are less permeable is a gratuitous assumption without a shred of evidence in support of it. The error arises from the assumption that the capillary pressure must be always higher than the venous. The energy always is, but not necessarily the pressure. I have shown that the capillary pressure in the foot may be less than in the nose; why, then, conjure up the unproven factor of lessened permeability?

The pressure in the capillaries is usually higher than that in the veins because this sectional area is greater and there is greater friction, but if the arterioles be much contracted, a tenth or even a twentieth of the capillaries may not be filled with blood, and the sectional area of those may fall even below that of the vessels collecting the blood.

When a person is standing the venous pressure in the foot is raised, but so also is the arterial. Supposing under the circumstances you have a venous pressure in the foot of 100 mm. of mercury obstructing the capillary flow, and an arterial pressure of 300 mm. of mercury, you have a difference of 200 mm. of mercury driving the blood through the capillaries with great velocity and very little lateral pressure. If, then, the subject assume the horizontal posture, and raise the foot till the venous pressure be nil, there will be a corresponding fall in the arteries of 100 mm. of mercury, but there will still remain the same difference between the arteries and veins of 200 mm. The following physical experiment readily explains this question of pressure and velocity. If you construct a U-shaped tube out of india-rubber tubing, having both the limbs very wide, and a short connexion made of very fine tubing, then make a small hole in each of the three pieces, and connect one of the limbs with a water-tap, you will then find that the water comes out in a forcible jet from the hole in the proximal limb or artery, with less force from the hole in the distal limb or vein, but from the hole in the capillary there is no escape; the energy in it is all converted into velocity. If you compress the

vein, then you raise the lateral pressure in the capillary and thus cause an escape. In the healthy individual the arteries of the lower limbs are firmly contracted, and although the pressure is high the mass of blood on which it acts is relatively small, and consequently the energy in the capillaries is largely converted into velocity. In proportion as you obstruct the outflow from the capillaries you increase the lateral pressure and diminish the velocity in them, and consequently increase the transudation. In cases of vasomotor paresis and in cases of cardiac failure the mass of blood in the capillaries of the dependent limb is augmented, the pressure is increased, and the velocity is diminished: consequently you get oedema.

THE VEINS.

The veins are smooth, capacious vessels, which practically offer no resistance to the circulating blood. They contain a certain amount of muscular fibre, and are supplied with some vasomotor nerves, which maintain their tone and to some extent regulate their capacity. The great strength of the veins depends on the strong fibrous external coat. They are slightly elastic and attain their maximum distension at a low internal pressure; in this respect they differ essentially from their corresponding arteries. The veins have very flaccid walls, and consequently readily adjust their cubic space to the amount of blood in transit. It has been shown by MacWilliam and by Leonard Hill that veins contract on mechanical stimulation or by cold, and dilate by heat. The co-efficient of elasticity increases with the internal pressure.

THE PRESSURE IN THE VEINS.

The lateral pressure in the systemic veins depends on three factors which it would be well to consider separately: (1) The obstruction to the inflow to the chest; (2) the hydrostatic effect of the column of blood; and (3) the potential energy transmitted through the capillaries.

1. During inspiration there should be a negative pressure of a few millimetres of mercury in the systemic veins in the chest, and from this there is a gradual rise till you reach the smallest vessels collecting the blood from the capillaries, and of course the pressure in these vessels will largely depend on the hydrostatic pressure due to their posture. During expiration there is a positive pressure in the veins of the chest, and this is further increased when there is any obstruction in the lungs such as arises from emphysema, pneumonia, or bronchitis, or in the heart as may arise from pulmonic or tricuspid obstruction or regurgitation, pericarditis with effusion, cardiac failure, etc. This obstruction tells backwards throughout the whole venous system to the capillaries, but its effects are more immediately felt in the liver, and it often gives

rise to transudation into the pleural sacs. In epileptic or tetanic convulsions there is great obstruction to the entrance of blood into the chest, while the high arterial pressure keeps the lungs engorged by damming back the blood, drives the blood on through the capillaries, and thus raises the venous pressure.

2. The effects of the hydrostatic pressure in the veins of the limbs would be very great only for the fact that they are well supplied with valves, and the muscular compression of the vessels drives the blood onwards, thus lowering the venous pressure and diminishing the obstruction to the outflow from the capillaries. If there be a negative pressure in the chest the venous pressure at the level of the vertex should be practically nil. Therefore, when the body is in the horizontal posture and the foot raised to the level of the head, the pressure in the veins of the dorsum of the foot may be at zero, but when a person with large varicose veins and defective valves in the veins of the lower extremity is erect the pressure in the dorsum of the foot may rise to over 100 mm. of mercury.

3. The pressure transmitted by the blood moving through the capillaries. This is a very variable quantity, and largely depends on the amount of blood and the energy which it retains in its passage from the arteries through the capillaries. If the quantity be great and the capillary pressure high the venous pressure is raised, but if the quantity be small and the velocity great in the capillaries the blood in the veins may still retain much of its kinetic energy. In the veins the viscosity of the blood and the friction against their walls are practically negligible quantities. The energy of the blood in the veins is also variously compounded of pressure and velocity; the greater the obstruction to the flow into the chest the greater the pressure and the less the velocity; and the greater the freedom in the flow the more is the vis a tergo converted into velocity.

In the portal vein the pressure is always positive, and in this respect it resembles an artery.

VELOCITY IN THE VEINS.

The blood in the veins is one of the very few things which runs more quickly up the hill than it does down it. The velocity depends on the vis a tergo and varies enormously; in the veins of the arm it is frequently five times greater when the arm is hanging than when it is held horizontally at the level of the shoulder. The velocity is calculated by emptying a long piece of vein between two valves, and then timing with a stop-watch the period it takes the blood to fill the empty vein. I have seen 23 cm. of a vein in a dependent arm filled in 0.2 of a second, or a velocity of 115 cm. in the second, a velocity as great as often occurs in the aorta. As

in this case viscosity and friction can be left out of account, the only resistance to the flow was the retarding influence of gravity which can be easily calculated.

The resistance would just equal the accelerating influence of gravity on a body falling in vacuo through a height of 23 cm., and from the formula $V = \sqrt{2 gh}$ we know that this would equal a terminal velocity of 2,100 mm. per second. This is equivalent to a pressure of 230 mm. of blood and equals the resistance, but in order to attain a velocity of 1,150 mm. in the second over and above the resistance of gravity, we must have a pressure which would give a velocity of 3,250 mm. in the second, which would be obtained by the pressure of a column of blood of 530 mm. in height. The pressure-gradient in these 23 cm. of vein would, therefore, be a fall from 530 to 300 mm. of blood, or from 40 to 23 mm. of mercury. This calculation was borne out by observation with a haemometer. In these calculations mercury is reckoned as thirteen times heavier than blood. Where the resistance is nil, a pressure-gradient of 5 mm. of mercury in a vein will give you a velocity of 1,120 mm. in the second. These observations show how kinetic and potential energy in every part of the circulation is constantly varying.

THE ARTERIES.

It would be quite out of place to this audience and to the larger audience which I hope to reach, to describe the constitution of the arteries, but for the clear comprehension of the physics of the circulation it is rather important to emphasize some difference between the aorta and its branches. The aorta and the commencement of its principal branches differ from those of smaller calibre in the enormous amount of elastic and white fibrous tissue which almost completely replace the muscular layer of the middle coat. The external coat is very strong, and is composed of white fibrous tissue and longitudinally disposed elastic fibres, while the internal coat, like that of the other arteries, is divisible into three structures. When we pass down to the small arteries and arterioles, the muscular layer is relatively better developed, and the external tunic gradually lessens, and before the capillaries are reached finally disappears.

The constitution of the respective arteries depends on the functions which they have to perform. The arteries, especially those of large size, are well supplied with nutritive vessels, the vasa vasorum; and, with the exception of those previously specified, are richly endowed with vasomotor nerves; and it is largely due to this influence that the arterial tone is maintained.

As the blood leaves the heart its energy is largely kinetic, and therefore there must be very little lateral pressure at the commencement of the aorta during ventricular systole, but if the aorta

In a healthy a large portion of this energy is rapidly stored up in the elastic walls as potential which is paid out during the diastolic period, and then the blood is compressed with a force nearly equal to that which it exercised, and this applies to all portions, including the commencement.

The velocities of the blood in the aorta and pulmonary artery vary considerably in different individuals, and in the same individual under different conditions. The velocity is directly as the cardiac energy and inversely as the resistance to the outflow and the sectional area. The force of the right ventricle is not a third of that of the left, but the resistance is also not a third of that in the systemic vessels; the sectional area is only slightly greater, therefore the velocity in the pulmonary artery is nearly equal to that in the aorta.

In my opinion physiologists place too low an estimate on the velocity of the blood in the aorta, though no doubt their conclusions are based on many careful experiments, but experiments very difficult to carry out and very liable to great fallacies. Chauveau found that the velocity in the carotid artery of the horse reached 520 mm. per second during systole, while at the time of the diastolic wave the velocity sank to 220 mm. per second, and in diastole to 150 mm. per second. In the human aorta the mean velocity has been set down as 320 mm. to the second, while Professor Sherrington is a little more liberal with 500 mm. Now, a fall in the pressure-gradient in the aorta from 100 to 80 mm. of mercury gives you a theoretical velocity of 525 mm. per second. It seems to me that with this easy-going circulation a kind of perpetual motion ought to be set up, and you should live to the age of Methusaleh before your arteries were worn out. However, there would be the disadvantage of this theoretically perfect circulation in the present day, that you would be more easily hustled out of existence, and the only consolation would be that your relatives would know that, although you ceased to exist, there was nothing the matter with you.

You must bear with me while I explain these questions of velocity and pressure in the aorta, because a clear comprehension of them is essential for any true knowledge as to how stress and strain produce atheromatous and sclerotic changes in the vessels.

There is no more important subject in the whole domain of medicine, as, after the age of 50, arterio-sclerosis, directly or indirectly, kills more people than any other disease.

As the semilunar valves open the blood has acquired its velocity head, and then the actual velocity depends on the energy or effective head minus the resistance to the outflow; in the aorta the viscosity of the blood can be left out of account. The velocity between any two points depends not on the pressure but on the difference in the pressures. In a healthy aorta the energy is

rapidly stored up in the elastic walls during systole and paid out during diastole, thus making the pressure and velocity more or less uniform. The most perfect circulation is one with a small difference between the systolic and the diastolic pressures—a moderately low systolic and a relatively high diastolic pressure in all the arteries. The systole of the ventricles gives out the energy during a third of a cardiac revolution, and the perfection of the circulation depends on the disposal of that energy not only during the time that it is given out, but also in the interval between the systoles. The diastolic pressure is more than sufficient to overcome all the resistance in the circulation; if it were not, the circulation in the main arteries would come to a standstill towards the end of the diastole. You can therefore look upon the difference between the systolic and diastolic pressures as that part of the energy which is not stored up in the walls of the arteries and which is engaged in producing velocity. I usually think that when this difference exceeds 40 mm. of mercury there is something wrong with the elasticity of your aorta and it is about time that you began to think about repairing the damage. Now we have seen that a pressure-gradient of 5 mm. of mercury in a vein without any resistance would give you a velocity of 1,120 mm. in the second, but in an artery, in order to get a velocity of 1,120 mm., you require a fall in the pressure-gradient from 150 to 100 mm. of mercury. With a pressure of 150 mm. and a resistance of 120 mm. of mercury to the outflow you get a velocity of 640 mm. in the second. With this velocity there is no excessive longitudinal strain on your vessel, and provided the lateral pressure in the aorta does not exceed 150 mm. of mercury the elasticity of the vessel may be preserved till old age. This ideal is not often realized.

When you get a continuous lateral pressure of 200 mm. of mercury or more there is no period of repose for the vessels, but merely periods of greater or less distension; there is interference with the circulation in the nutritive vessels, the vasa vasorum; you get irritative and proliferative changes in the subendothelial layer of the intima, atheromatous and perhaps calcareous degeneration follow, and the elasticity of the aorta becomes impaired. Oskar Klotz says that all the aortas examined by him coming from persons over 25 years of age showed more or less calcareous change in the aortic wall. In proportion to the loss of the elasticity the energy of the heart is not stored up, and with the loss in the conservation of energy the heart has got more work to do in order to carry on the circulation, and a great disparity arises between the systolic and diastolic pressures.

In these cases the immediately resistance to the outflow from the heart is not increased, but the total work is greater, the diastolic pressure in the heart rises, and the ventricle dilates and hypertrophies. The output is increased, the velocity is increased,

and longitudinal straining—especially along the greater curvature of the arch of the aorta—takes place. You may now get a difference between the diastolic and systolic pressures of 120 or 130 mm. of mercury or more. With a systolic pressure of 250 mm. and a diastolic pressure of 120 mm. of mercury you would have a velocity of 2.450 mm. in the second, which would be chiefly expended during the systole. This gives rise to a marked recoil of the heart at the end of the systole, and to negative and positive waves in the circulation which obstruct one another. When failure begins to set in, you may find the force of this big powerful organ which shakes the whole chest only poorly represented at the periphery. In these cases the storage is defective, the pressure and the velocity are more or less intermittent, and there is an enormous waste of energy. In cases of very free aortic regurgitation the difference in the pressure-gradient, and consequently in the velocity, is often very great, the cardiac hypertrophy becomes extreme, and subsequent failure rapidly takes place.

This question of storage forms an important element in prognosis, and for this reason aortic regurgitation occurring early in life from a rheumatic lesion when the aorta is fairly healthy is, *cæteris paribus*, very much less serious than a similar lesion arising secondary to degeneration of the aorta. If there be any elasticity left in the aorta and principal branches, there is an advantage in aortic regurgitation in maintaining a relatively high diastolic pressure, because you thus make circulation more uniform, and you do not necessarily raise the systolic pressure or increase the work of the heart. For these reasons well-regulated doses of digitalis and squill often do an enormous amount of good in this disease, notwithstanding the fact that many well-recognized authorities have entirely condemned the use of digitalis in aortic regurgitation, possibly because they did not know how to use it.

While a combination of these drugs increases the peripheral resistance—which is an advantage if moderate in amount—they lessen the size of the ventricle, increase the length and completeness of contraction, diminish the residual blood, and thus lower the diastolic pressure in the ventricles. In estimating the condition of the aortic wall in these cases some valuable evidence is furnished by the ear, because if there be any delay in the transmission of the pulse wave the aorta is still fairly elastic. You must always be careful to distinguish between the velocity of the blood and that of the pulse wave. With the former, the greater the resistance, the higher the diastolic and the lower the systolic pressure, the less the arterial velocity of the blood; but in the case of the pulse wave, the greater the resistance, the higher the diastolic pressure, the more rigid the arterial wall, and the greater and more rapid the energy of the ventricle the quicker the transmission. The rigidity of the arterial wall may either depend on

the atheromatous and calcareous degeneration with loss of elasticity or on an increase in the coefficient of elasticity due to high blood pressure; in both cases the velocity of the pulse wave is increased. The velocity of the blood in the smaller arteries is inversely as the cross section, and need not here further detain us, as it will be best considered with the pressure-gradient. In the present day it is a very common, and occasionally beneficial, practice to combine cardiac tonics with vasomotor relaxants, such as digitalis and nitroglycerine, but before combining opposing forces I think it is always well to have a clear indication in your mind as to the objects which you wish to accomplish, and the results which are likely to be attained. The circulation of the blood is one of the most perfect pieces of mechanism in the universe, and no amateur should be trusted to keep it in repair, yet American and English people pour tons of baneful drugs down their throats every year on the recommendation of advertising quacks, who care nothing for the lives and health of the community, and care for nothing but their money.

ARTERIAL BLOOD PRESSURE.

During recent years an enormous amount of literature has been devoted to what has been euphemistically described as blood pressure. To much of this I do not wish to refer, and I have no time to devote to the really valuable contributions. With one of the numerous blood-pressure instruments on the market it might seem a very simple matter to make an observation, but it must be remembered that it is not the instrument, but the man behind the instrument, who makes or mars the observation.

The arterial pressure at the level of the heart depends on the force of the cardiac systole and the resistance to the outflow through the arterioles and capillaries. With a healthy heart or self-regulating pump the greater the resistance the greater the force of the cardiac contraction, and consequently the higher the lateral pressure on the walls of the arteries. If the resistance be too great, we may get cardiac failure, and then the pressure falls. A long-continued great resistance increases the work of the heart, and work leads to hypertrophy, which maintains the pressure at a high level. In a healthy aorta the coefficient of elasticity increases with the internal pressure, but long-continued strain impairs the elasticity and leads to degenerative changes in the intima.

Roy considered that the maximum distensibility of an artery occurred under pressures corresponding, more or less exactly, to their normal blood pressure, but since then Professor MacWilliam has shown that this is an error due no doubt to Roy unwittingly using arteries in a state of post-mortem contraction. MacWilliam has shown that the behavior of an artery under varying degrees

of internal pressure depends on the state of contraction or relaxation of the vessel, and on the relative amount of elastic and muscular tissue. A strongly contracted muscular artery resists internal pressure, and the maximum distension does not occur until very highly pressures are reached, while in a completely relaxed artery and one containing very little muscular fibre, the increase in volume is greatest at low pressures. Similar conclusions were deduced from his experiments on the pulsatile expansion of arteries.

"In the intact arteries of men and animals there would be much less pulsatile expansion in a contracted artery than in a relaxed one; and in a relaxed artery expansion would be very much more extensive when the mean blood pressure is low. Further, elongation would occur markedly in the relaxed artery as compared with the contracted one. And when a long stretch of artery is concerned the increase in length is very much greater than the increase in transverse diameter."

I have arrived at the same conclusions from my observations on the pressure-gradient; wherever there is relatively a great disparity between the systolic and diastolic pressures you get marked expansion in the arteries; when the arteries and arterioles are very relaxed and the diastolic pressure low, as in the hyperdiastolic pulse, you get extensive expansion; but even under these conditions if the systolic output be slight the expansion is not great, so we are driven back to the conclusion that even in a relaxed artery the amount of expansion depends on the fall in the pressure-gradient. In very contracted arteries, which are usually associated with high blood pressure, the fall in the pressure-gradient is slight and the expansion is slight. Again, I observed that a contracted artery, no matter how high the internal pressure, does not become tortuous. On the other hand, tortuous arteries are always more or less relaxed, and there is a great difference between the systolic and diastolic pressures. In these arteries there is a want of muscular tone, there is a waste of energy, they are badly nourished, their walls become thickened, the muscular tissue wastes and is partly replaced by fibrous or even calcareous material. This is the condition which has been termed by Clifford Allbutt the involutionary form of arterio-sclerosis, but it is involutionary in development and is primarily due to want of muscular or vasomotor tone.

When a person is in the horizontal posture there is still the same pressure-gradient between the systolic and diastolic pressures, and in all the arteries of the limbs these respective pressures are about similar levels. The postural variations in pressure have been thoroughly investigated by Leonard Hill and placed on a true scientific basis. These variations are of importance not only from a physiological but also from a pathological standpoint. In arterio-sclerotic changes, the arteries of the lower limbs are most

involved notwithstanding their muscular development and good vasomotor nerve supply. These arteries take part in raising the general arterial pressure, and are also subjected to additional internal strain from the statical pressure of the blood; hence both the middle and internal coats are involved in the sclerotic changes.

In arterio-sclerosis the middle coat is chiefly thickened in the muscular arteries and arterioles which take part in raising the general arterial pressure, such as those of the splanchnic area, the skin, and muscles; while in those arteries which are not very muscular and are subjected to internal strain from both high systolic and diastolic pressures the intima is principally involved. Hence atheroma and calcareous degeneration are very common in the aorta and in the commencement of its branches, and in the coronary and cerebral arteries. The carotid arteries seem to occupy an intermediate position; they are muscular and very contractile, and are not specially liable to sclerotic changes either in the intima or the media.

In my writings on arterio-sclerosis I entered very fully into the numerous causes which give rise to this disease, and the pathological aspect of the subject has been well investigated by Councilman, Cowan, Russell, Welch, and a host of others. A life of indolence and luxury is more deleterious to the circulation than the work of a navy. I must not be supposed as recommending either course of life, but a happy mean with a strong leaning towards hard work. Sir Lauder Brunton and Dr. F. W. Tunnicliffe showed that after the cessation of muscular contraction the intramuscular arteries dilate and thus lessen the resistance. Athletes who have had great muscular training retain very healthy peripheral vessels, but are liable to atheromatous changes in the aorta, and cardiac hypertrophy with subsequent degeneration.

Where there is continued high arterial pressure, especially high diastolic pressure such as occurs in chronic granular kidneys, you get general arterio-sclerosis, but the lesion is more local when the high pressure is intermittent. Women have not got the continued physical strain of men, but they are very liable to sudden increases of blood pressure from emotional causes which chiefly act on the splanchnic area, hence in them the aorta suffers more than the peripheral vessels. It is like the effect of suddenly turning a stopcock in a water-pipe connected with the main supply; it is the larger pipes which get the chief stress. We are not now allowed to put such a tap in a main water-pipe, but it is rather more difficult to legislate for the vasomotor system in an emotional individual. In many of these women the arch of the aorta becomes considerably dilated and the walls thin.

In assuming the erect posture from the horizontal there is not only a rise in the arterial pressure below the heart level but a fall in the arteries above, and to prevent the blood from the upper part of

the body gravitating into the capacious vessels of the abdomen, the regulative vasomotor mechanism contracts the splanchnic area, and so raises the mean arterial pressure, thus syncope is obviated. There are many cases, such as Addison's disease, where there is defective action of the vasomotor nerves, perhaps from lack of their usual stimulus—adrenalin—the splanchnic vessels do not contract, and the patient cannot maintain the erect posture. In the so-called cardio-splanchnic paresis of Albert Abrams, and in cases of orthostatic albuminuria, there is a defective action in the splanchnic area, but the vessels of the skin and muscles contract and make a feeble attempt to compensate for the want of tone in the abdominal vessels. In these cases the systolic pressure is low, but there is an even greater fall in the diastolic pressure.

THE HEART.

No survey of the circulation would be complete without a reference to the self-regulating pump. The heart is composed of two physiologically distinct organs—the right and left heart. Each has got its own varying amount of work to perform, and it, under normal circumstances, performs it without any assistance from the other, but in cases of stress or difficulty they mutually assist one another. They act together, and are set to the same time, but this does not prevent one from beginning or ending contraction before the other, and so much so is this the case—and they are at least to the extent independent—that doubling of both sounds of the heart is one of the most common of cardiac phenomena. In a healthy heart, both sounds are usually doubled every deep respiration.

Ladies and gentlemen, I have said enough to show you the necessity of a well-balanced circulation for the maintenance of life and health. It is only with healthy blood vessels that any one can hope to retain his mental and bodily vigor, and expect to attain a green old age.

Like the circulation, let us run with patience the race which is set before us. "Life every man holds dear, but the brave man holds honor more precious dear than life."

THE EMPLOYMENT OF PHYSICAL MEASURES IN THE TREATMENT OF DISEASE.

BY CHARLES R. DICKSON, M.D., TORONTO,

Electrologist to Toronto General Hospital, Hospital for Sick Children, St. Michael's Hospital; Fellow and Ex-President American Electro-Therapeutic Association, etc., etc.

As the art of healing becomes more progressive in the trend of its tenets and tendencies, prejudice and narrowness in its devotees gradually disappear and its votaries come to restrict themselves less and less to the mere exhibition of drugs in the never-ending battle waged against disease, and to depend more and more upon the assistance of methods whose efficacy they scouted and whose claims they ridiculed in no uncertain manner not long since.

The practitioner of to-day whose only weapons are drugs, and who fails to recognize the true value of other methods of attack and defence, and to avail himself of their assistance when necessary, is doing but scant justice to his patients or himself, and the young man who leaves his college halls with an unbounded confidence in his ability to combat disease with drugs and drugs alone, is sadly handicapped in the race for life, and greatly to be commiserated.

But while the employment of drugs to the exclusion of all else in therapy is greatly to be deplored, not less severely should we condemn a restriction to physical methods alone, and the fantastic and fanatical claim that the use of drugs is not only harmful but unnecessary in these days of progress.

Reorganization and reconstruction is the cry of the age, and like much else the science of medicine is in the crucible and becoming reorganized, progressive and more truly scientific than ever before.

This an age of specialism and specialists. The general practitioner is in nowise dethroned thereby, nor is his position even threatened by the advance provided he keep pace with the times and avail himself of his opportunities; but to stand still to-day is to suffer dry-rot.

And fortunately for the general practitioner his opportunities are most excellent. It is not necessary that he return to his halls of learning in order to acquire knowledge of the advance that is being made in the employment of physical measures in the treatment of disease, in fact his beloved alma mater would probably have little to tell him of such matters, but other streams of knowledge flow free, fast and deep, and other channels invite him.

The medical journals of to-day, progressive in the best sense of the term, supply the lack of the schools, and contain many

articles upon the treatment of disease by physical methods, physiotherapy; indeed, so fully recognized has the importance of this subject become that many journals of no mean proportions devote themselves entirely to its consideration. The more pretentious literature of books is likewise available, and much that is excellent has been published. Societies dealing solely with physiotherapy have been founded in many lands, and it has already attained the dignity of an International Congress.

Although few schools of medicine make any serious attempt to cope with the situation in the regular course of training, post-graduate faculties have been established in many places where instruction in physiotherapy may be obtained.

As a result of this short-sighted policy on the part of the schools the quacks, charlatans and empirics have a vast promising and fertile field left practically to themselves, where they may work the sweet pleasure of their wills unlet and unhindered by the law, fearless of prosecution, because they claim that their methods cannot be considered as either medicine or surgery since they are not taught in the regular schools.

Doubtless in time this condition of affairs will right itself; the colleges will give lectures upon the subject and suitable legislation will be enacted.

Among the more important physical agents which are at our service as adjuvants to medicine it will suffice to instance a few. Thus, under electrotherapy, we have electricity in its varied forms such as galvanism, faradism, franklinism, sinusoidal currents, currents of high frequency. Under phototherapy we have the closely allied measure, light of various intensities and character, utilizing different portions of the spectrum visible and invisible, derived from varied sources, solar, arc, incandescent. Under radiotherapy we have the X-rays and kindred rays. Under thermotherapy we have heat dry and moist. Under hydrotherapy we have water in its various uses internal and external, plain or medicated. Under kinesitherapy we have gymnastics, movements of various sorts, massage, mechanical methods, including vibration and other mechanical measures.

This does not exhaust the list of physical agents we may summon to our assistance, but it will give some idea of the extent thereof.

It is not to be expected that the general practitioner shall be an adept in the use of all these agents, and equally expert with each, but it is well that he should have some general knowledge of the main indications for their employment, so that when drugs fail him he may know of other allies to assist him in his battle. The employment of physical measures may well be left to those who devote their entire attention to physiotherapy.

There are many reasons for this division of labor. For instance, the various procedures consume more time than the busy general practitioner can spare from outside work, while the apparatus itself demands time and care in keeping it in order, and its use calls for special skill which a busy general practitioner has not time to acquire; moreover, the apparatus is expensive and unremunerative if only occasionally used.

On the other hand, the physician who devotes his entire attention to physiotherapy will not have his time taken up with outside visits, and will be able to confine his attention entirely to office work; it will not be possible for him to attend as many patients as his confrere, therefore, he will be in a position to give each more individual attention.

This delimitation of their respective fields will not only prove mutually satisfactory, but the patient likewise will reap the benefit, and when this situation is generally recognized and acted upon it will be better for all concerned.

The general medical practitioner of to-day rarely attempts amputation of limbs, unless so situated that the services of a surgeon are unavailable; he will be wise if he leaves the employment of electricity, the X-ray, mechanical vibration and all the other varieties of physiotherapy to those who devote their entire time to carrying out these methods.

As an instance of the utility of physiotherapy may be cited one of its developments to which comparatively little attention has been paid in this country hitherto, and yet one of undoubted value in suitable selected cases, but by no means the panacea some of its votaries would have us believe.

Mechanical vibration is referred to and it is preferably selected from the list on account of the unfamiliarity of the general practitioner with it.

In employing heat, light or electricity as curative agents we are utilizing vibrations of very great rapidity, but in the case of mechanical vibrations we are dealing with vibrations much grosser in character, but vibrations to which the tissues may in certain cases be more responsive on this very account.

While treatment by mechanical vibration, as at present carried out, is comparatively new, the principle upon which it is based is centuries old, for it is a direct lineal descendant of the rubbing of the ancients, a practice dating back to time immemorial and associated with gymnastics and other exercise.

Kurre W. Ostrom, in "Massage and the Original Swedish Movements," claims that "manual treatment for disease has, to a certain extent, existed since the creation. Man had, by instinct, acquired the art of manipulation long before Nature yielded her secrets in medicine. . . . Amiot and Dally

speak of a perfect system of gymnastics among the Chinese three thousand years before the Christian era. They maintained that gymnastics, by preventing stagnation, produced an even and harmonious movement of the fluids of the human body, which is necessary to health. Not only did they use gymnastics to preserve health, but they also had a thorough knowledge of their therapeutical effects. . . . The priests of Egypt used some manipulation in the form of kneading and friction for rheumatic pains, neuralgias and swellings. The Hindoos, also, had some knowledge of their therapeutical importance. . . . Even the Persians used a few movements for different affections. The Greeks were the first to recognize gymnastics as an institution . . . the philosophers and the physicians recommended manual treatment. . . . Although the Romans imitated the Greeks to some extent, they rather preferred calisthenics; yet the manual method was more extensively practiced in Rome under the Emperors than it had hitherto been by any other nation. . . . In the fifteenth and sixteenth centuries well-known physicians recommended gymnastics. . . . The Swede, P. H. Ling (1776-1839), and his predecessors erected the first scientific system . . . making the movement treatment a perfectly scientific remedy worthy of the confidence of every educated man. . . . Dr. Mezger, of Amsterdam, and his two pupils, the Swedish physicians, Bergham and Helleday, were amongst the first to apply the Massage Treatment scientifically. Their method is now used throughout Europe."

Hartvig Nissen, in "Swedish Movement and Massage Treatment," says: "It is a known fact that bodily exercise was used as a curative agent in the earliest days. Aesculapius, Apollo's descendant, is said to have been the inventor of the art of gymnastics. Medea procured health and youth by gymnastics. It was four hundred to five hundred years before Christ that Iccus, and later Herodicus, reduced bodily exercise to a system, and Herodicus made it a branch of medical science to preserve the health and cure diseases by the use of gymnastics, and among his many pupils was the famous Hippocrates, Diocles, Praxagoras, Herophilus, Aesclepiades, Athenaeus, Celsus, and Galen recommended 'movement treatment,' and gave rules for it. Mercurialis wrote in the sixteenth century a book, 'De Arte Gymnastica,' or the science of bodily exercise, . . . and pointed out the use of the different movements in different diseases, and also gave rules for their application in special cases. Thomas Fuller, an English physician, published in 1704, 'Medicina Gymnastica,' treating of the power of exercise in preserving health and curing disease. Clement J. Tissot, a French physician, who several times gained the prize of the Academie Royale de Chirurgie for

his lectures, published in Paris, 1781, '*Gymnastique Médicinale*.' . . . As Herodicius observed the curative effects of gymnastics on his own delicate health, and thereby was brought to use movements in therapy, so did the Swede, Pehr Henrik Ling, in the beginning of this century, study the movement treatment because he had cured himself of rheumatism in the arm by gentle percussions. Ling formerly had been only a fencing-master and instructor in gymnastics; but afterward, studying anatomy and physiology, and the influence of the movement and manipulations in different chronic diseases, he founded a system of gymnastics corresponding with the knowledge of physiology, which is universally known as 'The Ling System,' or the 'Swedish Movement Treatment,' . . . and in 1813 the 'Royal Gymnastic Central Institute' was established in Stockholm at the expense and under the supervision of the Swedish Government, and Ling was its first president."

William Murrel, in "*Massotherapeutics, or Massage as a Mode of Treatment*," says: "In a primitive form massage was known both to the Greeks and Romans, who resorted to it, especially after the bath, a custom which, under the name of 'shampooing,' still prevails amongst Oriental nations. After the struggles of the circus it was employed to dissipate the resulting contusions and extravasations, and to restore pliability to the bruised and stiffened joints. Homer tells us that beautiful women rubbed and anointed war-worn heroes to rest and refresh them after the toil and heat of the battle. We all know the story of the Emperor Hadrian, who one day seeing an old soldier rubbing himself against the marble at the public baths, stopped him and inquired why he did so. The veteran answered: 'Because I have no slave to rub me,' whereupon the Emperor, pitying his condition, gave him two slaves and enough to keep them. On the following day when the Emperor made his appearance a number of old men commenced rubbing themselves against the wall, hoping to have similar good fortune, but the Emperor, divining their intention, directed them 'to rub one another.' Hippocrates says: 'A physician must be experienced in many things, but assuredly also in rubbing, for things that have the same name have not always the same effect. For rubbing can bind a joint that is too loose, and loosen a joint which is too tight.' And he adds, 'rubbing can bind and loosen, can make flesh, and cause parts to waste. Hard rubbing binds, soft rubbing loosens, much rubbing causes parts to waste, moderate rubbing makes them grow.' Celsus, too, suggests the use of friction for the removal of deposits in the tissues, and especially for the relief of pain. Amongst the Chinese, written allusions will be found dating back to a period three thousand years before the Christian era, and their oral traditions

are of still greater antiquity. The Chinese manuscript, Kong Fau, the date of which is 3,000 B.C., seems to have contained detailed accounts of these operations. Closely allied in their nature and mode of action are the *sarchuna* of the Persians, the *avarpuffs* of the Greeks, and the *friction* of the Romans." Murrell likewise tells us that the natives of Australia, Africa, Sandwich Islands, Russia, Siberia and Lapland carry out various methods of massage. While Murrel concedes that for much of our knowledge of modern massage we are indebted to Mezger, of Amsterdam, whose thesis was published in 1868, it is to Van Mosengeil we must look for an accurate and scientific description of the subject (1876).

Arnold Snow, in "Mechanical Vibration and Its Therapeutic Application," also gives us much interesting information of the early history of massage and its forerunners and records: "It is believed that the Susruta, of the Hindoos, used also by the Brahmins, is the oldest work on the subject. It was probably followed later by the Chinese book, 'Cong-Fou of the Tao-See,' which was written hundreds of years before Christ. Some believe that the Greeks probably got their knowledge from the Hindoos and Chinese." Snow alludes likewise quite extensively to the mechanical precursors of vibration as practiced at the present day, mentioning among others Zander's mechanical motion devices of the middle of the nineteenth century, and later those of Taylor and Kellogg, and many others, and takes us down to the present day with its multifarious wealth of apparatus, bewildering in its plenitude.

Many other writers might be cited, for the literature on massage and kindred methods is by no means limited, but enough has been quoted to show that treatment of such character has been in use since the remote ages, that it has been confined to no one nation or tribe, but has been well-nigh universal, that it must be of some practical value or it would not have survived; and it is all vibration in one form or another.

Many attempts have been made to evolve apparatus that would carry out the technique of scientific massage, and be a substitute for massage, the movement cure and allied forms of treatment, but be also an improvement upon these methods and attain therapeutic results impossible otherwise, and much ingenuity has been displayed in this direction, and as a result, and a most satisfactory one, we have the vibrator executing mechanically and under perfect control and regulation movements impossible with the human hand unaided.

It remained for the late lamented Maurice F. Pilgrim, of New York, to place the subject of Mechanical Vibration in the position to which it was fully entitled, and to establish it firmly

upon a rational scientific basis by his work, "Mechanical Vibratory Stimulation," published in 1903; a modest and unassuming volume, but none the less an epoch-making one, and the subject at once assumed a new dignity from the masterful presentation of unanswerable arguments, based not upon theories, but upon solid facts set forth in acknowledged authoritative standard works written by such authors as Landois and Stirling, Kirke and Foster, and facts further confirmed by actual practical experience. The subject at once assumed a new importance and great interest was excited thereby. In fact, this work heralded the birth of a practically new therapy.

To give some idea of the scope of vibration therapy a few paragraphs may be quoted from Pilgrim's work: "Treatment by mechanical vibratory stimulation has been found by practical experience to be capable of: (1) Increasing the volume of the blood and lymph flow to a given area or organ; (2) Increasing nutrition; (3) Improving the respiratory process and functions; (4) Stimulating secretion; (5) Improving muscular and general metabolism, and increasing the production of animal heat; (6) Stimulating the excretory organs and assisting the functions of elimination; (7) Softening and relieving muscular contractures; (8) Relieving engorgement and congestion; (9) Facilitating the removal through the natural channels of the lymphatics, of tumors, exudates and other products of inflammation; relieving varicosities, and dissipating eruptions; (10) Inhibiting and relieving pain." Pilgrim disclaims any intention of lauding this treatment as a cure-all, but maintains that "for the purpose of effecting the changes above enumerated, there are no physical therapeutic agents within the writer's experience or knowledge that will render as effective service along these lines, with as few disappointments, as mechanical stimulation properly employed. . . . The general theory upon which this treatment is based is that all the functions and organs of the body are controlled by certain nerves or nerve centres, located principally in the spinal cord, and that in the course of disease, if these centres are reached and treated, restoration to normal actions may be expected in most cases to take place."

This claim of Pilgrim's can be substantiated by any one who has devoted careful attention to the details of treatment by mechanical vibration; it is no vain boast, and in many very obstinate affections vibration will be found one of the most useful measures within our reach, but it must be properly carried out and used in no mere haphazard fashion.

It will be quite impossible in the limits of a paper such as this to attempt to set forth all the conditions in which we may

count upon the assistance of mechanical vibration and brief reference to but a few must suffice.

In many forms of rheumatism it is of inestimable value, not only for the relief of pain and stiffness, but also in promoting the elimination of uric acid, hastening the absorption of effusion about joints and improving nutrition. In sciatica it is also of great use, and in rheumatoid arthritis it is a valued adjunct.

In chronic constipation, particularly when due to intestinal atony, it is likewise of great assistance, and is an admirable adjunct to electricity and suitable dietary.

In hemorrhoids internal or external its remedial action is frequently manifested quite promptly.

In many paralyses it is of great assistance, and its use affords much comfort, while in chorea it is one of the most valued remedies we possess.

In parenchymatous goitre it is often of considerable utility used in conjunction with electricity, and in many other conditions it is of undoubted utility and well worthy of our confidence.

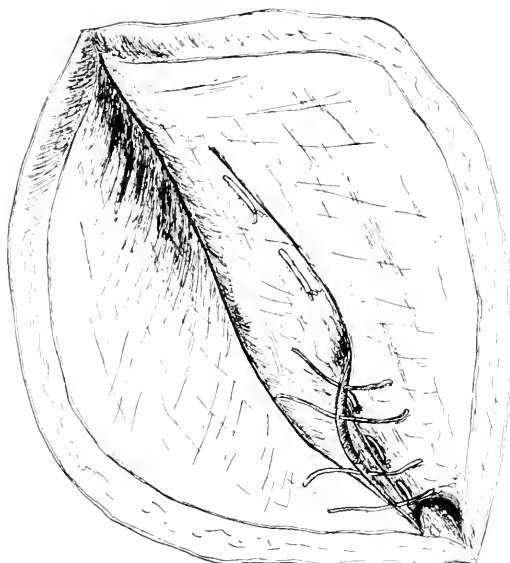
192 Bloor Street West, Toronto.

COMBINATION OPERATION FOR THE CURE OF INGUINAL HERNIA.*

BY F. N. G. STARR, M.B. (TOR.).

Associate-Professor of Clinical Surgery, University of Toronto.

Mr. President and Gentlemen,—The subject of Inguinal Hernia and its radical cure is always interesting, and one over which there has been much controversy. While the number of operations is legion, it seems there are but two that are generally practised, namely, Kocher's and Bassini's. In the former the method of



dealing with the sac is certainly ideal, for it entirely obliterates the hernial protrusion and draws the peritoneum, in the neighborhood of the internal abdominal ring, upwards and fixes it in a direction opposite to the course of the spermatic cord. Kocher lays a good deal of stress on this point and claims that the "descent of a sac in the direction of the cord is rendered impossible."[†] One has but to do a few of these operations to learn that "all things are possible," for one will frequently get recurrence, though Kocher[‡] publishes statistics gracefully granting to his own operation 100 per cent. of permanent cures, Bassini's (from only 7 cases) 37 per cent., McEwen's 66 per cent., and Kocher's modified by Landerer 80 per cent. In the face of such statistics one almost trembles to suggest what he considers a better method of dealing with the wall than that advocated by Kocher; however, to my mind, I think

* Read at a meeting of the Canadian Medical Association, Halifax, N.S., August, 1905.

[†] Kocher's *Operative Surgery*, 4th edition, p. 239.

[‡] Kocher's *Operative Surgery*, 4th edition, p. 240.

that in Bassini's method we have a safer and better way of closing the canal, and I hope before I conclude to be able to demonstrate a still better method for selected cases. Coley and Bull,* of the New York Hospital for Ruptured and Crippled, who have had a very large experience with Bassini's method, report 450 cases in adults with seven relapses, and 800 in children with eight relapses.

It seems to me reasonable that a surgeon in search of the best might readily combine the good points in each of these operations and thus approach more nearly the ideal.

An incision is made over and parallel to the inguinal canal but extending beyond it above and below.

The superficial epigastric artery is divided and twisted, and the aponeurosis of the external oblique is exposed freely. The intercolumar fascia, the lower fibres of the internal oblique (cremaster) and the infundibuliform fascia together with the aponeurosis are divided, thus exposing the whole of the inguinal canal. The divided edges of the aponeurosis may be grasped by forceps and this structure separated freely from the underlying strata: the lower edge of the internal oblique, the transversalis, and the conjoined tendon are then defined and separated by the finger from the peritoneum. Poupart's ligament, by the aid of the finger, is also fully defined. The sac is then isolated and freed as high up as required, some traction at the same time being used. It is now opened, carefully cleared of its contents, and is then seized at its fundus with long narrow curved forceps and invaginated backwards through the inguinal canal up into the abdominal cavity. "The point of the forceps is then forced against the abdominal wall, which is made to project just external to the internal abdominal ring. An incision one third c.m. long is made through the aponeurosis and muscles down to the parietal peritoneum, which, together with the invaginated hernial sac, is pushed through the opening. The parietal peritoneum is taken up with dissecting forceps and incised and the edges are grasped with artery forceps to prevent them from retracting. The whole length of the invaginated sac is forcibly pulled out;† the empty forceps are taken out at the same time. The base of the sac is crushed with a pair of pressure forceps, transfixed with a chromic catgut suture, and the two halves, together with the parietal peritoneum, are tied. The sac is cut off close to the ligatures, the stump pushed back under the fascia and the same suture is used to close the opening in the aponeurosis of the external oblique.

The lower edges of the internal oblique, the transversalis and the conjoined tendon are then united to the deep part of Poupart's ligament by means of a series of Mattress sutures of chromic catgut, care being taken that these sutures are not tied so tight that

**Progressive Medicine*, June, 1905.

†*Kocher's Operative Surgery*, 4th edition, p. 213.

the vitality of the parts be interfered with, just enough room is left at the inner end to allow the cord to emerge. In this way the cord is left undisturbed in its bed, which I consider an important precaution, for it seems to me that the less handling there is of the cord the less likelihood there is of unfortunate complications. There are certain cases of long standing in which there is a considerable redundancy of the aponeurosis, and in these the method of Bassini, namely, finishing the operation by suture, is hardly sufficient to ensure the integrity of the abdominal wall. It is in such cases that I commend to your attention the following method, namely, that the upper margin of the divided aponeurosis be sutured with a continuous chromic catgut suture to the superficial part of Poupart's ligament, beginning the running suture at the inner extremity and then where it terminates at the outer angle, by making a fixation cross the same running suture may be used to fix the lower divided edge of the aponeurosis, to the aponeurosis, above the level of the inguinal canal, and make the final fixation of that suture one half to one inch and a half above the external ring, its point, of course, depending upon the amount of redundancy of the aponeurosis. (See fig.) While I would insist on this as being absolutely necessary in all long-standing cases, yet a certain amount of overlapping of the aponeurosis may be secured in all cases and thus add materially to the strength of the abdominal wall. One must, of course, see to it that the cord is not unduly compressed, otherwise there may be swelling or more serious damage to the testicle. The operation is then concluded by a subcutaneous stitch of silkworm gut or heavy horse-hair, incuding in its bite the deep fascia as well as some fat, and by a subcuticular suture of horsehair, the ends emerging about half an inch above and below the extremity of the incision, and tied over a small roll of acetanild or iodoform gauze. These stitches are removed on the 9th or 10th day.

I have done this operation a number of times already and it has seemed to me rational and has given excellent results so far, and this is more than I can say of either Kocher's or Bassini's or any other operation in my hands. It is true the hands may be somewhat to blame, but I am prone to ask the method to share some of the responsibility.

Note: Since presenting this paper to the Canadian Medical Association I have discussed the operation with my senior colleague, Dr. Geo. A. Peters, and find that he has been doing practically the same operation for a number of years, while I have done it for not more than two years. The drawing was made for me by W. E. Gallie, M.B. (Toronto).

112 College St.

Selections, Abstracts, Etc.

CELESTINS—GRANDE-GRILLE—HOPITAL SPRINGS.

No natural water has ever been made the subject of such exhaustive clinical study as that of the Vichy Springs, and it owes its reputation, not to a simple popularity due to its pleasant taste, but to a fame resulting from the crucial test of centuries of clinical observation.

Like other mineral waters, their activity is somewhat greater at the spring than when taken in bottled form. Yet this is scarcely a disadvantage, since in many cases it allows of a milder, more prolonged effect, which is especially serviceable in chronic conditions.

It has been noted that the three springs, Celestins, Grande-Grille and Hopital, are very similar in their chemical composition. In practice, it is found that the water of Celestins is especially indicated in disorders of the kidneys, and such as depend upon the uric acid diathesis; rheumatism, gout, gravel, and cutaneous lesions, such as eczema, etc. The Grand-Grille water is deemed to be especially efficacious in stomach and liver disorders, while the Hopital spring is useful in the same way, but it is somewhat milder and slower in its action than either of the others.

Practically it may be said that the water of the Celestins spring meets every indication for the employment of Vichy Water. It has a mildly diuretic action of great power, and its action upon the liver and stomach is excellent. By its continuous use the blood is rendered more alkaline, deposits of uric acid in the form of sodic urates no longer take place, since the acid becomes promptly changed into urea, which is rapidly eliminated. The bile becomes diluted, and calculi are no longer formed in the gall-bladder. Those which may be present are disintegrated through the solution, in a strongly alkaline medium, of the mucus which holds the various parts together, and the fragments are discharged through the common bile duct into the intestinal tract.

In chronic hepatic disorders there is secured a greater flow of bile, and the improvement in gastric and intestinal digestion, due to the alkaline treatment, relieves the liver of a large part of the work previously given to it. In cases of hepatic sluggishness, attended with painful and slow digestion, the effects are often nothing short of marvellous.

In gastric and intestinal indigestion the use of Vichy secures

a freer action of the bowels, digestion becomes more perfect, and the products of this digestion reach the blood in a better prepared condition. This relieves the liver and kidneys, which no longer have to deal with so many products of imperfect metabolism, and therefore we rapidly see an improvement in the general health which is quite surprising in character.

A very large number of the girls and young women for whom we prescribe iron owe the poverty of their blood to gastric and intestinal sluggishness, and the great majority of cases of anemia and chlorosis are therefore much improved by the Vichy treatment.

In gastric derangements due to dietetic errors, and in those in which the abuse of alcohol may be incriminated, the Vichy Waters are of unquestionable efficacy.

If dyspepsia is of the decided acid variety, the Vichy Waters naturally act as antacids, and as such are clearly indicated. In this form of dyspepsia we commonly find that those who are content with prescribing bicarbonate of soda are disappointed in regard to the permanency of the effects obtained. As has been said by Bartholow: "While the immediate result is good, the after-effect is to increase the production of acid. Those who habitually take sodium bicarbonate for acid indigestion suffer severely from acidity." If the alkaline treatment is limited to the use of Vichy Water, no such unfortunate result can occur. Medication by the use of the alkalis themselves must be carefully dosed as to amount and time of administration. Bicarbonate given before meals increases acidity; given after meals it lessens acidity by the chemical neutralization of a part of the acid of the gastric juice, but while it acts in this manner it fails to afford the multiple results achieved by the Vichy Waters, due to the dosage accomplished by nature itself. These waters so promote oxidation in the system, and have such a general effect in improving nutrition, that they finally eliminate the causes themselves of the distributed digestive processes.

A Few Physiological Facts.—A. Somnoforme can be administered equally well to children as to adults, or old people. B. For children and anemic individuals Somnoforme is an ideal anæsthetic because of the rapidity of its action and the length of narcosis obtained which, when Nitrous Oxide is employed, is usually of very brief duration with these classes of patients. C. Strong, robust men require a larger dose of Somnoforme than do other classes of patients. The same applies to alcoholics. D. With Somnoforme the anæsthesia deepens after the face piece has been removed. E. Under Somnoforme the pulse become slightly accelerated and strengthened. F. The reason of the safety of Somnoforme is because of its exceedingly rapid absorption, and equally rapid elimination from the system.

CITROPHEN IN MALARIA.

The numerous administrations of citrophen made with the most scrupulous and conscientious care have caused us to arrive at the following conclusions:

That citrophen is a potent Therapeutic for combating malaria, influenza, fever and neuralgia. The following clinical cases above others will prove to you the great value of this excellent preparation, positively confirming the results of other well-known experimentalists, such as Prof. Dr. von Leube, of Würzburg, and Prof. Buchwald, of Breslau.

1. A. F., aged 36, teacher, with parents, sisters and brothers, all in good health and never having had an illness, lived in a house free from damp, but often visited the malarial districts. He contracted the infection from the marshes, and was attacked with malarial fever, which resisted all remedies. Presented himself at our Sanatorium, Medical and Surgical Institute, Palasciana, and was found to be suffering from malarial fever and especially tumor.

A microscopical examination by the micro-chemical department connected with the sanatorium disclosed *plasmodium malariae*. Then commenced the cure with citrophen, 1 gr. per day divided into two doses, and after one week the fever had completely abated. The physical examination disclosed a notable reduction of splenic tumors. The microscopical researches failed to find *plasmodium malariae*. The citrophen cure was continued a whole month, at the end of which period the patient left the sanatorium thoroughly cured.

2. F. S., aged 40, owner, with children, wife, sisters and brothers, all in good health, always inhabited homes entirely free from damp, but was liable to rheumatism. One day, whilst crossing the marshes, he contracted malarial fever. On coming to our sanatorium, on the advice of his medical man, *plasmodium malariae* was disclosed at the microscopical examination by our micro-chemical department. The cure by citrophen commenced with doses of $\frac{1}{2}$ gr. per day, but the fever did not yield. The medicinal doses were then doubled, and after eight days there was a complete recovery.

The microscopical examination of the blood failed to disclose the *plasmodium malariae*, notwithstanding the administration of various preparations.

Having enumerated many other cases, the professor concludes as follows:

This brief article, describing these cases with all possible scrupulousness and without the use of any unnecessary scientific terms, confirms the experience of Leube, Heidingsfeld, Buchwald, and

other celebrated experimentalists, thus drawing us to the following conclusions:

1. Citrophen is an excellent antipyretic.
2. Citrophen is an excellent antineuralgic.
3. Citrophen is harmless when given in large doses.
4. Citrophen is completely eliminated with urine.
5. Citrophen is to be preferred for its agreeable taste of lemon.
6. Citrophen greatly improves the appetite.
7. Citrophen is preferable to other medicines for rheumatism, neuralgia, sciatica, typhoid, pneumonia and influenza.

Technic in the Use of Medicine.—We do not find articles in the journals telling how the writer employs in all operative procedures Killgerrn's "compound antiseptic and tissue vitalizer," but for each step of his work the surgeon employs one or another special agent—one to prepare the instruments, another for the skin, a third for his hands, etc., etc. Simple and well-known agencies are alone utilized, things whose powers are sure and single, unerring, never doubtful or variable. What exactness, what precision, what certainty, are required. Some of us believe that a similar exactness of technic would be a good and desirable thing in the use of internal medicines. We think that such elaborate care and such nicety of application would bring correspondingly precise results. Moreover they believe that this can be accomplished by the observance of a few simple rules: Know exactly what is the matter with your patient. Know exactly what medicine will restore normal conditions. Give of the right medicine exactly enough to restore normal conditions, and then stop it.—*Editorial, Am. Jour. of Clin. Med.*

SOMETHING ABOUT THE WORLD'S GREAT FRATERNAL ASSURANCE SOCIETY.

AMONG the institutions established to assist men and women to provide against the contingencies of life none have proved more generally helpful than that whose name appears above. It came upon the stage of fraternal effort at a time when the range of the usefulness of those which preceded it had apparently reached a limit without satisfying the practical trend of fraternal instincts and the demands of the age. Designed to meet conditions in which the operations of other fraternal agencies were restricted or altogether lacking in effectiveness, and aiming to systematize and give definiteness to the work of providing by fraternal methods against death as well as sickness and disablement it secured at once a popularity that has remained with it ever since: while the case with

which its undertakings were planned and the fidelity with which they have always been carried out have won for it a confidence given to but few similar institutions.

The plan upon which the I.O.F. operates was adopted in 1881, when the Hon. Dr. Oronhyatekba became the head and leader of the Society; and the results accomplished by it during the quarter of a century it has been on trial have more than met the expectations of its originator and demonstrated its value and effectiveness as applied to fraternal assurance. By means of carefully computed constant or level premiums (much lower than those charged by the regular insurance companies), payable at fixed and regularly recurring periods it provides a definite income for the payment of all legitimate insurance claims immediately upon proof and at the same time accumulates a fund to offset the increasing death rate of old age. That fund, like the membership, has grown year by year until it now amounts to over \$10,400,000, the Society having during its accumulation paid out upwards of \$20,250,000 for life assurance, disability, sickness, and other benefits, besides providing free medical attendance, nursing during illness, care of families and other relief the value of which cannot be estimated in dollars and cents, as well as fraternal and social privileges not otherwise obtainable. In addition to all these the necessarily large expenses of introducing the Society into the several countries in which it is operating were met, so that the achievements of Independent Forestry are in every way remarkable.

The following table will indicate at a glance the growth of the premium yearly income, the annual payments for benefits, the accumulation of funds and the membership under that system since the Society was reorganized in 1881:—

Year.	Premium Income.	Benefits Paid.	Accumulated Funds.	Member- ship.
1881	\$ 5,123.38	\$ 1,300 00	\$ 4,568.55	1,019
1885	35,712.71	26,576.99	29,802.42	3,642
1890	284,333.71	181,846.79	283,967.20	24,604
1895	1,119,508.42	685,000.18	1,560,373.46	86,521
1900	2,399,683.01	1,545,145.64	4,483,364.44	180,717
1905	3,263,984.69	2,191,413.48	9,709,583.83	233,293
1906 (Oct. 1)			10,388,914.15	245,000

The insurance and other benefits paid by the Society since the 1st of January, 1906, amount to \$1,758,170.65, divided as follows:

For death claims.....	\$1,447,574.37
For total disability claims.....	82,029.01
For old age and expectation of life claims.....	56,489.84
For sickness claims.....	160,698.36
For funeral claims.....	11,379.07

These figures taken together represent a payment in excess of \$7,480 for every working day during the period covered, while added to the total of the previous disbursements for the benefits

provided by the Society that already magnificent sum was increased to \$20,250,078.27 on the 1st of October, 1906. It requires some effort of imagination to realize what the distribution of this vast sum must have meant to the beneficiaries who received it, but having mastered that, one has no difficulty in excusing the speaker who described the Foresters as "scattering golden blessings" nor in appreciating the numerous expressions of gratitude that are constantly reaching the Head Office from members who have been helped during illness and disability and from widows and orphans to whom the insurance benefits provided by the loving thoughtfulness of departed bread winners came indeed as blessings.

In addition to its other benefactions, the Independent Order of Foresters established recently at Foresters' Island, near the town of Deseronto, an institution known as the Foresters' Orphans' Home. The stately edifice within which its operations are carried on was planned and designed by the Hon. Dr. Oronhyatekha and was erected on a site donated by him for its occupancy. It is a splendid four-storey structure, with a frontage of 150 feet and a depth of 166 feet, including the wings. It has accommodation for about 250 children, including dining rooms, class rooms, work shops, and a handsome and capacious convocation hall, living apartments and offices of the superintendent and other officers, etc. The dormitories are large and airy, and dining halls and class rooms ample and cheerful, the recreation quarters in every way adapted for the purpose. Quite a number of orphan children are now domiciled in this Home, and with others to come will there be fed and clothed, nurtured and cared for, as nearly as possible as they would be in a well-regulated home, and in addition be given such thorough and up-to-date education as will qualify them to engage in the practical duties of life and of good citizenship with advantage to themselves and to the countries of which they may become citizens. The superintendence of the Home has been placed in the hands of J. C. Morgan, M.A., who is favorably known as for several years senior Inspector of Public Schools for Simcoe County, and is a brother of His Honor Judge Morgan, of Toronto.

The Head Office of the Society is at the Foresters' Temple Building, Richmond and Bay Streets, Toronto, a magnificent twelve storey fireproof building erected and owned by the I.O.F.; and branch offices are maintained at Port Huron, Mich., at London, England, and at Sydney, Australia. The Executive Council which manages the business of the Order in the interim between Supreme Court Sessions, consists of the following well-known gentlemen: Hon. Dr. Oronhyatekha, J.P., S.C.R., Toronto; Victor Morin, B.A., N.P., P.S.C.R., Montreal; Joseph D. Clark, S.V.C.R., Dayton, Ohio; Robert Mathison, M.A.S.S., Toronto; Henry A. Collins, S.T., Toronto; Thomas Millman, M.D., M.R.C.S.E., S.P., Toronto; E. G. Stevenson, S.C., Detroit, Mich.

THE TREATMENT OF BRIGHT'S DISEASE.

IF we will consider Renault's idea, that the kidney is not a filter, but a gland of secretion, as well as excretion, and that this secretion passes into the blood, where its action brings about such changes that the kidney is better able to eliminate the toxins, then will we get an idea of the action of nephritin, the unchanged primary elements of the cells of the cortex and the convoluted tubules of the kidneys.

This idea has been worked out exhaustively, but in a crude way, for three years in the hospitals of France, where they have been making daily macerations of fresh kidneys and treating various cases of nephritis with remarkable results.

For some time we have been trying to produce a product that could be used successfully by physicians in cases of nephritis, overcoming the nausea and repugnance, as well as the gastric irritation, which usually accompanies crude products, and also secure a product of a definite standard, so that the dose can be graduated according to the requirements of each individual case.

Taking Renault's macerations as a standard, we made many experiments, the result showing that glycerine extracts were extremely weak, desiccated kidneys showed that the primary substances were injured by the heat and no favorable results obtained, solutions, extracted by normal saline solution, required alcohol to keep them, which is irritating, other extracts showed no value, and no active principles could be precipitated that would give the results as shown in France. Nephritin alone maintained a definite action throughout all these experiments, and if we still keep Renault's macerations as a standard, nephritin is found to be fifty times as potent, or in other words, ten tablets of nephritin equal the maceration of one pig's kidney.

Nephritin is made from the fresh pig's kidney, uninjured by any preservatives, is perfectly stable and does not irritate the stomach; laboratory and clinical tests have confirmed the remarkable results by this method abroad.

For the tests, cases have not been picked, but were taken as they came.

A case of albuminuria in a whisky drinker. Sp. gr. 1.011, urea 0.5 per cent., albumin 1 gm. per liter, sediment showed hyaline casts in abundance. Given 4 tablets four times a day. On the third day sp. gr. 1.022, urea 2 per cent., albumin 0.75 gm. per liter. Careful examination of the sediment failed to show casts. He is showing rapid improvement without change of diet.

Another case showed no lesion of the kidney. Patient complained of languor, pain in back, tired easily. Urine amount 1947

cc. in 24 hours, sp. gr. 1.012, urea 0.8 per cent., albumin absent. Given 3 tablets every three hours. After the first day he noted an immediate increase of appetite and a feeling of well being. Urine in 5 days increased to 3012 cc. in 24 hours, sp. gr. 1.020, urea 2 per cent., albumin absent.

A number of other well-marked cases are undergoing this treatment with excellent results and in course of time will be reported upon. The results so far, however, have proven its great value and justify our hope and expectation to have found a remedy suitable, at least as an adjunct, in almost every case of nephritis, be it acute or chronic, primary or secondary, but we believe that continued treatment should be carried over an extended period.

Dose: In acute cases of nephritis, five to ten tablets or more three times a day or oftener, sub-acute cases, three times a day; chronic cases, two to five tablets three times a day; and, as a prophylactic in cases of scarlet fever and where there is danger of acute nephritis starting, one to three tablets three times a day according to age.

Muiracithin as an Aphrodisiac.—A short time ago Prof. Nevimny, of Innsbruck, carried out a number of experiments on animals, which demonstrate, on the one hand, the absolute harmlessness and non-toxicity of Muiracithin, and, on the other, the influence of the preparation upon the sexual organs. Nevimny gave to rabbits up to fifty pills, and to dogs up to seventy pills, without any change in the general condition of the animals being observed; but he proved an increased turgidity of the testicles and an increased emission of the semen. After the animals were killed no change in the kidneys nor in any other organ could be detected. The urine contained neither albumen, nor blood, nor tube-casts.

ANTAGONISTIC ACTION OF VERONAL AND MORPHINE.

SHORTLY after the introduction of veronal, Wolfram, of Erfurt, observed that the very disagreeable after-effects following an injection of morphine were obviated by first giving a dose of veronal. Since then he has repeatedly been able to confirm this observation.

The undesirable symptoms appearing after morphine, if given subcutaneously, are well known: nausea, stupor, vertigo, loss of appetite, cessation of intestinal peristalsis, and, quite often, persistent and severe hemorrhoidal pains. Owing to these after-effects, many patients suffering from neuralgia, gout or tabes would rather endure agonizing pains than have recourse to morphine, the more

so since every conscientious family physician will warn against the repeated use of the injections.

If a dose of veronal is given by mouth half an hour before the injection of morphine the disagreeable symptoms noted will not appear, with the exception of intestinal paresis, which occasionally persists. The relation of veronal to morphine is as 0.5 to 0.03 Gm.; that is, a dose of 0.5 Gm. (8 grn.) of veronal will antagonize the after-effects of 0.03 Gm. ($\frac{1}{2}$ grn.) of morphine. During the course of two years the author has been able to prove this fact over and over again, with very intelligent patients as well as himself.

The anodyne action of morphine is in no wise diminished. While, ordinarily, morphine sleep may be delayed for three to four hours, a quiet sleep will set in very soon if veronal is given.

The author had two patients who required from 90 to 120 grn. of morphine yearly. According to directions, every injection of morphine was preceded by a dose of veronal, and up to the present these patients have not acquired the morphine habit.

Since veronal is thus able to prevent morphinism, the author thinks it is probably also destined to play a rôle in the withdrawal of morphine. As far as he knows, no reference is to be found in medical literature to this use of veronal, but trials are probably under way in the various sanatoria.

He also believes that veronal may possibly be a reliable antidote for morphine. A case has come under his observation recently which would point in this direction, and he promises to report it. *Aerztl. Mitteilungen*, July, 1905.

“Apenta” Water—Its Uses and Applications.—1. For the relief of habitual constipation, and as a regular aperient which may be trusted for its constancy of composition and its uniformly reliable and gentle action. 2. For the prevention and cure of Obesity, as established in Prof. Gerhardt's Clinic in Berlin. 3. As a gentle laxative in pregnancy and the puerperal state, and as a preparation for surgical operations. 4. For “bilious attacks,” congestion of the liver and defective secretion of bile. 5. For the prevention and cure of gall stones. 6. As a stimulant to healthy nutrition and therefore indirectly as a tonic, by stimulating the digestive functions, increasing peristaltic action, relieving the system of waste material and generally promoting normal nutritive changes. 7. As a preventive of attacks of gout by stimulating the activity of the liver and intestinal glands, and furthering the elimination of uric acid.

Iodine Petrogen (5 and 10 per cent.)—While Iodine is a most valuable medicament for external use, its staining of the skin and lack of absorption through the integument has greatly restricted its field of therapeutic usefulness. These objections, however, are

overcome by Iodine-Petrogen, as it is not only immediately absorbed into the pathologic tissues, thus exerting its beneficial, alterative and absorbent properties, but causes no permanent stain upon the surface, and any of the basic material of the Petrogen not absorbed may easily be removed with soap and water. As Iodine-Petrogen is non-irritating, it is as well adapted for internal administration as external application, and may be employed in many forms of systemic disease in which the general effect of the iodine is desired. Applied locally, it has been found useful in the treatment of muscular rheumatism, glandular swelling, old syphilitic nodules, rheumatic swelling, stiff joints, bruises, and is indicated in the treatment of diseases of the respiratory tract and auditory canal, such as atrophic and hypertrophic rhinitis, stomatitis, pharyngitis, otitis and otalgia. Iodine-Petrogen has been employed, with most gratifying results, in the treatment of pleurisy and pneumonia. To prove most effective, *it should always be applied by the hand*, being rubbed in thoroughly and until entirely absorbed, two or three times each day. The frequency of its application can be determined intelligently only after a careful consideration of the conditions by the attending physician.

Transplantation of Non-Malignant Tumors.—R. Neumann (*Zeitschrift f. klinische Medizin*, Berlin) reviews the history of transplantation of living tissue. The transplanted elements display only a limited growth as a rule. Even the new growth of fetal tissue elements is checked. Scraps of fetal cartilage on a foreign soil follow their organ-forming tendency, but cease to grow when they have attained maturity. In some instances on record the transplanted tissue caused the production of dermoid cysts, but they remained encapsulated. Transplantation on a foreign soil has an unmistakable inhibiting effect on the proliferation of the transplanted tissue. The inhibiting effect is greater the higher the vital qualities of the soil. Transplantation on an atrophic soil allows more prolific growth. The success in transplanting cancerous tumors on mice was obtained only on animals of the same species. Even the slightest racial difference was enough to prevent the proliferation of the transplanted elements. It has proved impossible to transplant the Jensen mouse tumors from Copenhagen mice on mice in the Berlin Cancer Research Institute, although they belong to the same species. Lanz has been most successful with transplantation of non-malignant tumors. On the whole, Neumann concludes, transplanted non-malignant tissue is capable of a certain moderate growth, but sooner or later it retrogresses as a rule. In not a single instance has it been found possible to cause the development of an affection with malignant characteristics from transplantation of non-malignant tissue.

The Canadian Journal of Medicine and Surgery

J. J. CASSIDY, M.D.,
Editor.

43 BLOOR STREET EAST, TORONTO.

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W. A. YOUNG, M.D., L.R.C.P. Lond.,
MANAGING EDITOR.

145 COLLEGE STREET, TORONTO.

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NO. 5.

Editorials.

WHOLE MILK, SKIM MILK, BUTTERMILK AND CREAM, 1906.

BULLETIN No. 121. Whole Milk, Skim Milk, Buttermilk and Cream, 1906, published by the Inland Revenue Department, Ottawa, contains detailed analyses of milks sold throughout the Dominion. Owing to the general consumption of milk as food, this report is of great interest to the general public; on account of the labor and scientific skill entailed in its preparation, it deserves and should receive the careful study of physicians.

After allowing for necessary corrections, the chief analyst, Dr.

MacFarlane reports on 319 samples of whole milk, of which 45 were adulterated, 85 doubtful, and 189 genuine.

He says "According to the statement the whole milks collected this year contained the following percentages:—

Of genuine samples	59.2 per cent.
Of doubtful samples	26.7 per cent.
Of adulterated samples	14.1 per cent.
	<hr/>
	100 per cent.

The percentage of adulterated milks is higher than it had been in the following years: viz., 1895, 1897, 1898, 1901, 1903.

Skim milk has disappeared from the Canadian market, there being only one sample of it described in the report—No. 27421 from Nova Scotia.

Buttermilk is sold in Canada. 5 samples were obtained by the collectors of the department, the butter fat of which ranged from 0.05 to 0.80 per cent.

A study of this bulletin shows, among other matters, that the proportion of butter fat in the samples of milk analysed is a widely varying quantity in different parts of Canada. For instance, sample of whole milk 24162, taken from large can going out to customers, furnished by a dealer in Sussex, King's Co., N.B., shows, from an analysis of one portion 6.80 per cent. B. F.; from an analysis of a second portion 4.62 per cent. B. F.; from a third analysis 4.61 B. F. Average 5.71 per cent. Sample of whole milk, 24163, taken from large can going out to customers, furnished by a dealer at Sussex, King's Co., N.B., from an analysis of one part shows 9.81 per cent. B. F.; from an analysis of the second part 9.52 per cent. B. F.; from a third analysis 9.48 per cent. B. F. Average 9.66 per cent. B. F. The analysts say that specimens 24162 and 24163 were "partly cream." They were sold, however, as whole milk. Sample of whole milk, 24167, furnished by a dealer at Sussex, King's Co., N.B., and taken from can in delivery wagon on street, showed from an analysis of one portion 5.23 per cent. B. F.; from an analysis of the second portion by another analyst 5.02 per cent. B. F.; from a third analysis 4.96 per cent. B. F. Average 5.07 per cent. At Sussex the milk is not bottled; it is retailed from the can at 5 cents a quart.

Then, of 31 samples of whole milk collected in New Brunswick, 24 are pronounced unadulterated; 1, below average in fat, with 3.40 per cent. B. F.; 1, probably watered, with 3.29 per cent. B. F.; 1, probably watered, with 3.39 per cent. B. F.; 1, below average in solids not fat, but with 4.44 per cent. B. F.; 1, below average in fat,

with 2.99 per cent. B. F.: 1, doubtful, with an average of 3.26 per cent. B. F.: 1, below average in solids not fat, though the average B. F. is 6 per cent. Certainly the skimming of whole milk can be but little practised in New Brunswick. How is it in Toronto. Of the 34 samples of whole milk collected in Toronto, only 5 samples reached the standard average percentage of B. F., viz., 3.75 per cent. The skimming and watering of milk must, therefore, have been freely practised by producers or retailers who supplied the Toronto market, or by both of them. How is it in Montreal? Of the 30 samples of whole milk collected in that city, the analysts pronounce 15 genuine; 3, watered; 3, partly skimmed; 7, low in solids, not fat. However, to probe the matter further, in only 3 samples of Montreal whole milk, which are pronounced genuine by the analysts, does the B. F. average come up to, or exceed, 3.75 per cent.

In Toronto, the price of bottled whole milk is 6.66 cents a quart, 15 quarts for a dollar. The following data, supplied by Mr. Potter, City Dairy, Toronto, will help to elucidate the cost of whole milk to the retailer and the profit:—

Price paid producer for 8 gallon can of milk, freight and cartage paid by producer	\$1.30
Railway freight for 40 miles to Union Station, Toronto.....	\$0.15.00
Cartage from Union Station to City Dairy..	0.02.50
Total reduction on price paid per can....	0.17.50
Net value of 8 gallon can to producer.....	\$1.12.50
Net value of milk, per gallon, to producer	0.14.62
Cost of milk to dealer, per gallon	0.16.25
Retail price of milk, per gallon, to consumer	0.26.66
Profit by milk retailer, per gallon.....	0.10.39
Profit by milk retailer, per quart.....	0.02.59

As the Toronto milk retailer pays 0.16.25 a gallon for milk, he should retail it at the rate of \$0.32.50 per gallon, or about 8 cents a quart, in order to get a fair profit, especially if he goes to the expense of bottling the milk. In all probability, the retail price of whole milk will be advanced in Toronto this winter, by one cent per quart, by the Retail Milk Dealers' Association.

It is to be hoped, that, with an increase in the retail price of bottled milk sold in Toronto, the quality of the article will leave nothing to be desired, even by the most painstaking analyst. Should this hope prove delusive, an opening of hearts and minds may, some day, reveal to us whether a low percentage of B. F. in our daily milk is due to poor breeding, or low feeding of the milch cows of our dairies, or to the high profits of the milk dealers. J. J. C.

**INAUGURAL ADDRESS BY SIR A. E. WRIGHT, AT THE
OPENING OF THE TWENTIETH SESSION OF THE
MEDICAL FACULTY OF THE UNIVERSITY
OF TORONTO.**

THE inaugural address at the opening of the Twentieth Session of the Medical Faculty of the University of Toronto, was delivered on October 3rd, at 8.30 p.m., in the University Gymnasium, by Sir Ahuroth E. Wright, M.D. (Dublin), F.R.S., etc. Dr. Reeve, Dean of the Medical Faculty, introduced the lecturer, the subject of whose discourse was "The Opsonic Theory and Therapeutic Inoculation with Bacterial Vaccines." Dr. Wright spoke depreciatively of the actual value of ordinary medication in disease. Instead of curing a disease, the physician, in many cases, merely assisted, as an intelligent spectator, the cure being really effected through the *vis medicatrix nature*; instead of rescuing a victim from the swollen river, the physician, too often, merely looked on at his struggles from the river's bank. He instanced typhoid fever and furunculosis. The opsonic treatment, he said, has begun to systematize attacks on various bacterial diseases, and the work goes on apace, remarkable cures having been effected by its application. The word opsonic is derived from the Greek verb *οφωρο*, I prepare to feed. In explanation of the meaning of this term the lecturer showed that the theory of phagocytosis is insufficient to account for the victory obtained in the blood over bacterial infections. It is true that leucocytes engulf bacteria, as the ameba does its food, and having absorbed them carries them to the liver and the spleen there to be got rid of; but there are bodies in the serum of the blood called opsonins, which do battle with the bacteria and the white blood cells are merely scavengers, which carry off the bacteria, after they have been worsted by the opsonins. Hence the conclusion, that, in fighting bacterial disease, we must especially strive to strengthen the opsonins.

The "Opsonic Index" shows by figures the resisting power of an individual as against bacilli. Suppose, for example, that in a healthy subject each white corpuscle is found to englobe eight bacilli; in another individual who is consumptive, the number caught falls to four, and in a third, to two; their opsonic indices would be, respectively, 1, 0.5, 0.25, eight being the normal.

In proportion to the power of resisting disease is the chance of recovery. The white blood corpuscles ought to eat up the bacilli; but they are not always hungry and they may be satiated. Dr. Wright's plan is to give them a vaccine, which, when injected into the patient's blood, causes the pouring out into it of a substance which enters into chemical combination with the bacilli rendering them not only digestible but appetizing. The material produced as the result of this mode of stimulation is called "opsonin." In certain individuals, the natural protective substance against a certain form of bacterial invasion is large in amount and such individuals do not suffer from this form of invasion. Their power of resistance suffices to overcome this bacterium, viz., the staphylococcus and prevents it from taking hold. In others the power of resistance is low, and, if attacked by staphylococcal infection, such individuals offer but slight resistance to the invader. In this localized class of infections, viz., furunculosis, the machinery of immunization is not called into play.

There is another class of bacterial infections, in which the machinery of immunization is called into play. In this latter category the protective powers of the blood are continually fluctuating—being at one time higher and at another lower than the normal. These two classes of bacterial infection must be treated on entirely different principles. The lecturer did not discuss these different forms of opsonic therapy.

Speaking generally opsonic treatment of bacterial disease meant: (1) The discovery of the offending microbe, (2) The preparation of a sterilized vaccine, similar to the bacterium discovered in the patient's blood, (3) Hypodermic inoculation of the patient with an attenuated form of this vaccine.

The events which occur in the blood of an individual after the inoculation of a bacterial vaccine are a negative phase, a positive phase and a return to a condition of equilibrium—coincidentally pyrexia and the pulse also fall. Charts were exhibited exemplifying observations of this kind which had been made in cases of typhoid fever, septicaemia, and staphylococcus infection. By tracings on these charts, it was shown that reinoculation raised the resisting power of the inoculated individual above the normal.

General mention was made of bacterial diseases, which had been cured by the employment of opsonic treatment. The diseases men-

tioned were typhoid fever, staphylococic infection and septicæmia. In Malta fever this treatment had been quite successful.

The fringe of the subject had only been touched. In countless diseases the opsonic method would be: (1) Discovery of the bacterial cause of a disease; (2) Preparation of a suitable vaccine; (3) Hypodermic introduction of this vaccine, on one or several occasions, until the power of resistance of the patient had been elevated to, or above, the normal. The medical profession, the lecturer thought, would take hold of this new method and, during the next few years, cures of hitherto hopeless cases might be confidently expected.

"The Opsonic Index" is a hard piece of pabulum to present to the leucocytes of novices, and it will be necessary to stimulate the blood sera of the medical practitioners of Toronto, on more than one occasion, before the intricacies of this difficult subject are even half understood. It is certainly a fascinating theme for a lecture, and its protagonist, Sir Almroth E. Wright, is a very fluent and attractive speaker. To him one is moved to say, as Falstaff says to Poins, "Well, mayst thou have the spirit of persuasion." All the same, a good deal of water will flow under the bridges of the River Don before the Toronto medicos settle down to study the opsonic indices of their patients.

J. J. C.

OPEN MEETING OF THE TORONTO MEDICAL SOCIETY.

THE first meeting of the Toronto Medical Society, for the season 1906-7, held in the New Medical Building, on October 4th, at 8.30 p.m., was attended by an audience of about one hundred persons.

The President, Dr. Rudolf, gave a short opening address, which was well received.

Sir Almroth E. Wright, lectured on "Factors in Coagulability of the Blood and their Practical Significance." The lecturer plunged at once in *medias res*, stating that he had little faith in text books on physiology, and had not read one in fifteen years. In his opinion, the theories advanced by physiologists to explain the cause of the coagulation of the blood, fibrin ferment, etc., were baseless. He had spent some thousands of hours trying to verify these theories, but in vain. He preferred to investigate the phenomena of the time required to enable coagulation to occur, and had used capil-

lary tubes to measure accurately the exact time required in this operation. He found, that normal blood coagulated in 11½ minutes. The blood of some individuals coagulated rapidly, and such blood was viscid. The blood of other individuals coagulated slowly, and such blood was thin and very fluid. The presence of lime salts in blood increased its viscosity and might explain its coagulation. The presence of citric acid, or of lemon juice, in blood decreased its viscosity and added to its fluidity.

The lecturer made an application of the theory of the coagulation of blood by lime salts to the custom of feeding typhoid fever patients on milk.

Thrombosis in typhoid fever is due to the weak circulation of the patient and an increasing viscosity of his blood, more particularly after the fever has abated, at the beginning of convalescence. A diet of milk, which was rich in lime salts was calculated to increase the tendency to thrombosis. Hives, chilblains and serous edema result from the opposite condition—too great fluidity of the blood. Deficient coagulation of blood was a cause of hemophilia. Treatment of hemophilia by hypodermic injections of a 5 per cent. solution of lactate of lime had proved satisfactory, in his hands; a 10 per cent. solution of this lime salt had proved to be too strong. The lecturer had found that a fruit diet causes urticaria, by increasing the fluidity of the blood and lessening the quantity of lime in the circulation. Cases were cited to illustrate the application of the lecturer's views.

A German lady who had been operated on for fibroma uteri had, after the operation, a large open wound in the abdomen which refused to heal. Dr. Wright examined her blood and, finding that its viscosity was above the normal, ordered her to take two drachms of citric acid every 3 hours. The result was that the lady's wound healed kindly, in a short time.

A gentleman, as the outcome of a swelling on the face and lower part of the neck, had been treated by a surgeon. The swelling was lanced, but pus did not appear in the opening. Increased swelling of the subcutaneous cellular tissue of the face and neck supervened, and several incisions were subsequently made, but no healing took place. The attending surgeon's prognosis was unfavorable and his diagnosis was that it was a case of Ludwig's Angina. Dr. Wright, after an examination of the patient's blood, which proved to be very viscid, ordered him to take two drachms of citric

acid every 2 hours. The result was a rapid cure. The fluids of the blood speedily appeared in the dry, beef-like tissues of the patient's face and neck, and repair went on apace. Antiseptics had been used by the attending surgeons in both these cases; but healing of the wounds had not taken place. The viscid condition of the blood had kept the wounded tissues of these patients in a dry, congested state, unfavorable to healing. When, owing to the action of citric acid in diminishing viscosity of the blood, a free pouring forth of the fluids of the blood into the wounded tissues took place, granulation and healing speedily followed.

Dr. McPhedran, seconded by Dean Reeve, moved that a cordial vote of thanks be tendered to the President, Dr. Rudolf, and also to the distinguished lecturer, Sir Almroth E. Wright.—Carried unanimously.

J. J. C.

THE RECENT UNIVERSITY SENATE ELECTIONS.

THE names of the medical representatives recently elected to the Senate of the University of Toronto, are:

H. J. Hamilton, M.B., Toronto, 1175.

C. J. O. Hastings, M.D., Toronto, 826.

W. H. Harris, M.D., Toronto, 708.

Wm. Burt, M.B., Paris, 625.

It seems strange, indeed, to write new names where old, familiar ones have so long stood, but the powers that be have decided, that former members of the Faculty are ineligible for re-election. The adoption of this measure is both regrettable and admirable. During the old regime the medical men of Toronto were represented by men of dignity and ever growing experience.

Under the new order of things the profession are to be represented by those whose remarks may frequently be prefaced by "Unaccustomed as I am." Members of the popular younger set, who have perchance the "long, long thoughts" of youth, but who are lacking in that equipoise of judgment that only the brains packed in ice and the nerve of steel to maintain opinions formed by years of weighing the pros and cons, can give, nature's just reward for the unrequited hours spent in conclave. While congratulating the new members of the Senate, let us not expect too much

from them; they are skilful physicians, men who are good friends and neighbors, but they are, "even as you and I," just

"A bone, a rag, and a hank of hair."

(With regrets to H. J. H. that he was omitted in the poem)

None of the medical Senators elect have been distinguished in the past for either brilliancy, energy, or originality, but they can at least "make good" with the one quality, with which we have heard they are endowed—common sense. After all the lessons are said, and the books closed over, perhaps that commodity is one of the most needed possessions in this old waltzing around world.

W. A. Y.

"Epistaxis, Prophylaxis,
Coughs, Colds and Rales,
Varsity Meds.
Varsity Meds.
Varsity Medicals.
Torcular Horopholi,
Val Sal Va,
Varsity Meds.
Varsity Meds.
Rah, Rah, Rah."

"Temptation waits for all, and ills will come,
But some go out and ask the devil home."

Over the Campus came a fearful and wonderful looking mass of struggling, fighting, yelling humanity, and we envied the Man in Mars his better view. Presently the mass swerved, then sprinted towards the Science building, rolled the human ball over, and yet a little while and it became a part of the dust and noise of the street called College. Portions of an old fence or two were added to the general melee, as a sort of armour, we suppose. In about half an hour the mass began to separate and take on individual form, and our eyes beheld nothing less alarming than the faces of the boys whom we all gladly welcome back to this University town. A bit fresh, fed too many oats all summer perhaps, full of life and coltishness, just spoiling for a scrap of some kind, and not a cop in sight that day, but one lone figure standing on the steps of the Technical School, a sight for the gods, utterly powerless before such a mob and from his vantage ground evidently enjoying the fight as only a Paddy can.

Law and order, of course, ought to govern the fun and frolic of the students, just as it governs the rest of the town dwellers; while in Toronto, the students are citizens, and, even though only boys grown tall, they are "the beginnings of men," and certainly would resent, in our social life, if they were not respected as such. If they desire such recognition, let them remember the "so far" limit to fun and the "no farther" that should ever be the armament of a gentleman.

Much has been said, and well said recently, in our newspapers about the expense of our University and its colleges both to the Government, and to the parents of the students, many of whom are not rich in money and have to economise to send "the boy to college in the city," and that it is necessary for the students to apply themselves more closely to their studies and not waste so much of their time in fun and foolery. On the other hand, do not let us grudge the boys their day, we had ours and the memory of it lingers, and, while the professors must maintain the dignity of their position, let them try as best they may to make earnest students, but certainly not prunes and prism prigs, out of the hope and heart of our land—our students.

" Knowledge is gold to him who can discern,
That he loves to know, must love to learn."

October Ninth.

W. A. Y.

"TO SEE OURSELVES AS OTHERS SEE US."

IN an article entitled "Canada" (devoted to The British Medical Association meeting in Toronto) in a recent number of the British Medical Journal, we noted the following sentence: "In such a large meeting, with its diversified interests, with a new and inexperienced management, there have been difficulties and hitches, but in all essential particulars the arrangements were suitable and satisfactory." Thanks awfully, old chap. The Canucks are indeed grateful for the "faint praise that damns." W. A. Y.

EDITORIAL NOTES.

Cyanopathy or Morbus Caruleus.—On Cyanopathy, Dr. Jaime Ferreira, Lisbon, writes an interesting paper, published in *La Presse Médicale*, 5 Septembre, 1906. He says, "The auricles are incompletely partitioned off at the birth of a child. The foramen of Botal, seen from the right auricle, represents a muscular ring—called the ring of Vieussens; from the left auricle it looks like a sort of net-like tissue (Weill), which presses against the deepest part of the ring. At birth, this tissue may be either adherent to the fleshy part of the ring or free from it; but it presses strongly against the ring, when pressure in the left auricle is superior to pressure in the right one. When the predominant pressure is from the right auricle to the left one, Botal's membrane allows the blood of the infant to flow afresh from right to left as it did during fetal life." He says, further, that if the circulation of the infant is disturbed from any cause, the excessive pressure in the right auricle fatigues it and allows it to become distended with blood, and the infant is born with the well-known symptoms of cyanopathy, the permeability of the auricles persisting for a longer or shorter period. He also states, that, by practising percussien over the cardiac area of the infant, he has succeeded in demonstrating dilatation of the right auricle. Autopsies he has made also revealed the same state of dilatation. In some autopsies, the foramen of Botal was only apparently closed and a probe could be easily passed through it from one auricle to the other. Examination of the blood in cases of cyanopathy shows an excessive degree of hyperglobinuria (excess of the red-blood corpuscles). In his opinion, blue asphyxia is but an acute stage of cyanopathy. From a consideration of the clinical facts observed, he concludes, that the obstetrician should not restrict his efforts to exciting respiratory movements in the infant (mouth to mouth breathing and other means), but should endeavor to stimulate the myocardium of the patient. On several occasions, he has saved the lives of infants by resorting to this treatment. The hypodermic injection of camphorated oil has also proved useful in his hands. In such cases, the following formula is recommended:—

Camphor, 0.30 centige.
Sterilized olive oil, 30 grammer.

Sig. Inject 1-2 cubic centimetres. He also uses the artificial car-

bonic acid bath (Mougeot's formula), with good results, the bath acting as a tonic to the myocardium. Massage of the precordial region by tapotement, (a form of percussion), is also said to be useful, the excitation produced in the precordial region by this procedure forcing the myocardium to contract more energetically.

The Prevention of Venereal Diseases.—So many measures to prevent the spread of venereal diseases have been recommended and abandoned, that physicians are sceptical as to the value to be attached to any of them. Military and naval surgeons, however, continue to direct their efforts towards the prophylaxis of venereal diseases and occasionally with gratifying results. In *Annali di Medicina Navale, Febbrajo, 1906*, Surgeon-Captain Luzzati, of the Umbria, (Italian fleet), reports that he had successfully adopted the following system of prophylaxis. If any sailors had had connection with suspected women, during shore leave, they were requested to present themselves at the infirmary, after returning to the ship. A solution of mercuric chloride 1-1,000 was applied, on a dressing, to the penis of each man, the dressing to be kept in place till the next morning. In case of special susceptibility to mercury, the strength of the mercuric chloride solution was reduced to 1-2,000. Dr. Luzzati states that out of 532 persons who, during 1905, took these precautions only 3 were contaminated, a percentage of 0.6; out of 20 cases of venereal disease in sailors coming under treatment 17 had neglected to submit to the preventive treatment. The following fact, in Dr. Luzzati's opinion, actually is as valuable as an experiment. Three sailors belonging to the ship had had, at different times, sexual relations with the same woman; one sailor was contaminated (chancre of the fraenum), the other two sailors escaped; the sailors who did not catch the venereal had resorted to the preventive treatment described above, the sailor who got the chancre had not done so.

Adulterations of Maple Syrup and Maple Sugar in Canada. Bulletin No. 120 shows the analyses made of maple syrups and maple sugars collected March, 1906 (first collection) and, also, the analyses of samples of maple syrups and maple sugars obtained in the months of May and June, 1906. Of the first collection 85 samples of maple syrups were analysed, 53 were adulterated; in 8 the adulteration was declared; in 2 it was doubtful; 22 samples were genuine. Of maple sugars 22 samples were anal-

ysed; 12 were adulterated; in 3 it was doubtful; 11 were genuine. From the foregoing it will be seen that 85 samples of syrup and 26 of sugar, 111 in all, were collected, and that of these, 65 or 58.5 per cent. were found to be adulterated. Classifying the samples in the same way as for the first collection, the second lot showed, that, out of 171 samples of maple syrup examined 57 were adulterated; in 9 the adulteration was declared; in 17, it was doubtful; 88 were genuine. Of 52 maple sugars analysed 7 were adulterated; in 1 the adulteration was declared; 44 were genuine. These two last statements show that 171 samples of maple syrup and 52 of maple sugar were obtained in the second collection, 223 in all, 57 syrups and 7 sugars being found to be adulterated, which is equal to 28.7 per cent., a number comparing favorably with that obtained in the first collection, viz., 58.5 per cent. It is stated by the chief analyst, that sugar from the cane, which is mostly added in the shape of refined granulated sugar, is the most common adulterant; but molasses may also have been used.

Intestinal Poisons.—In a thesis published recently at Paris, Dr. A. LePlay gives the results of several years of work devoted to the study of intestinal poisons. The thesis covers 142 pages and we shall simply cull from a resumé of it which appears in *La Presse Médicale*, September 1st, 1906, a few salient observations. In chapter V, he shows the biological troubles which he had discovered, in the deepest portions of the tissues. He describes the humoral modifications, the changes occurring in the nutritive processes. In order to penetrate into the extremest depth of these complex phenomena, he tried chemical analysis, and, as results, found that the hurtful principles in intestinal poisons may be divided into two classes: (1) substances soluble in alcohol; (2) substances insoluble in alcohol. Of these the insoluble ones are more morbidic in their effects than the others. This analysis also enabled the author to establish the fact, that the maximum of intestinal toxicity is met with in the ileo-cæcal region. The same method of investigation being applied to the microbic flora of the intestine, he discovered, that the greatest number of putrid microbic ferments multiply in the same region. In this region, also, the reabsorption of the greatest number of the hurtful watery products of the fæces takes place. As far down the intestine as the ileo-cæcal valve, the intestinal contents are liquid;

beyond the valve the faeces rapidly become dry, so rapidly indeed, that, before arriving at the rectum, the faeces lose from 25 to 40 per cent. of their water. In chapter VI, the author deals with the genesis of the disorders studied. This study relates to the intestinal contents and also to the walls of the intestine, contents and walls being studied in different stages and at different levels. The structure of the intestinal mucous membrane and the arrangement of its epithelia are not the same in all parts of the intestine. Towards the end of the small intestine and the beginning of the colon, the glandular nature of the epithelial cells and the abundance of the lymphoid tissues appear best suited to produce changes in the substances, traversing the walls of the intestines during the slow exodus from the intestine to the circulation. In the intestinal walls, two physiological elements of the tissues are endowed with the power of exercising an antitoxic function of defence: epithelium provided with real physiological activity and lymphatic cells. The author shows the importance of the mechanism of defence, which the digestive apparatus opposes to the action of the toxic products formed in the intestines, because disease is not always the result of abnormal or hyperactive agents, but often the consequence of a reduction or a lessening of the defences, which should be opposed to such agents.

Alcoholism in Canada.—A report giving a resumé of the more striking details of alcoholism in Canada was presented, by Dr. G. Bourgeois, to the Congress of French-speaking physicians at Three Rivers (June, 1906). Among other data, tables were given, showing the relative proportions of "bars" in Ontario, Quebec and New Brunswick. They were as follows:—

Province.	Bar.	Proportion of Population.
Ontario	1	351.38
Quebec	1	1045.81
New Brunswick	1	1898

An important paper was presented by Dr. Triboulet, Paris, on "Alcohol as the Grand Causal Influence of Tuberculosis." Other papers on various aspects of the question of alcohol were read by Drs. Sirois, Sainte-Marie, Chagnon and Valin. After the discussion raised by these papers had been finished, the following resolutions were adopted by the Congress: "(1) The surest way to do away with alcoholism in Canada would be to pass a law prohibiting the

manufacture and sale of all distilled alcoholic liquids in the Dominion of Canada, save for therapeutic and industrial purposes. (2) If for political or other reasons, this proposal cannot be realized, it is desirable that the Provincial Government should undertake to carry on the liquor traffic. (3) Should the Provincial Government refuse to take over the liquor traffic, a charter should be granted to a private company, which would take charge of the liquor traffic of the Province, on the express understanding, that the company was to pay to its shareholders only a fixed dividend of a moderate amount, and that the surplus profits were to be devoted to charitable, philanthropic or other purposes, to be designated by the Government. (4) Should none of these proposals be accepted, the Congress recommends to the Legislature to amend the Liquor License Act, by limiting the rights and privileges of municipal councils, in such a way as to permit them to grant only one liquor license per 1,000 of population." There is plenty of reason for the attitude taken by the French-speaking physicians of Quebec on the question of alcohol in that Province. That bars are three times more numerous, in proportion to the population, in Ontario than in Quebec, may be true; but it would be a non sequitur to declare that they are not too numerous in Montreal, or that excessive drinking does not produce its harvest of death in Quebec as well as in Ontario. For instance, in a special despatch to *The Globe*, the following appears: "Montreal, October 1, '06. Coroner McMahon reports that within the last few days three sudden deaths occurred as a direct result of excessive use of alcohol." Details follow, giving the names and residences of the victims of alcohol, with some of the circumstances attending their deaths. The first resolution adopted by the Congress of French-speaking physicians, at Three Rivers, is radical, but is worthy of the adoption of every physician practising in Canada.

J. J. C.

PERSONALS.

Dr. and Mrs. Goldwin Howland, have returned from England.

Dr. Frank P. Cowan died at the Western Hospital, Toronto, on October 17th.

Dr. W. H. Pepler has removed his office from the corner John and Adelaide Streets to 600 Spadina Avenue.

Dr. Chas. Temple has removed from Spadina Ave. to the new residence built by him on Palmerston Boulevard.

Dr. J. S. Hart, of Parkdale, has come forward as a candidate for election for West Toronto, for the Medical Council.

Dr. H. P. H. Galloway, of Winnipeg (late of Toronto), has been appointed lecturer on Orthopedic Surgery in Manitoba Medical College.

Dr. D. Clark, ex-Superintendent of Toronto Asylum, was made an honorary member of the American Psychological Association at its annual meeting held recently in Boston.

The representatives elected from the Medical Faculty of the University of Toronto to the Senate are Mr. I. H. Cameron: Drs. J. F. W. Ross, G. A. Bingham, Gibb Wishart, and W. P. Caven.

Dr. Brefney O'Reilly returned to Toronto the first week in October, after several years spent abroad in study and travelling in many lands. He has settled at the family residence 54 College Street, and has taken up practice there. We heartily wish him great success.

Dr. Albert A. Macdonald, who for four years has ably represented West Toronto in the Medical Council, is again in the field for election. Dr. Macdonald is at present residing with his brother-in-law, Mr. Alfred Beardmore, in St. George St., until his new residence is completely finished.

Dr. BRUCE RIORDAN has announced that he is "out" for election to the Medical Council as representative for West Toronto. The fight will, therefore, be a three-cornered one between Dr. A. A. Macdonald, Dr. Hart, of Parkdale, and Dr. Riordan.

Obituary

DEATH OF DR. JOHN MATTHEW LEFEVRE.

On September 15th, 1906, at his residence, 1300 Georgia Street, Vancouver, B.C., John Matthew Lefevre, M.D., M.R.S.C., Eng., in his 53rd year.

DEATH OF DR. JAS. STEWART, OF MONTREAL.

Dr. James Stewart, who was one of the most eminent physicians in Canada, died at his home in Montreal, on Oct. 6th, following a recent stroke of paralysis.

He was well known in various parts of Ontario, particularly in Huron county, where he practised in both Varna and Brucefield.

For some time he was head physician at Montreal General Hospital, and at the opening of the Royal Victoria Hospital became prominently identified with that institution.

DEATH OF DR. MINERVA M. GREENAWAY, TORONTO.

THE death, on Sept. 27th, at St. Michael's Hospital (where she had been for ten days suffering from a severe attack of typhoid fever), of Dr. Minerva M. Greenaway, removes one of the most accomplished and beloved lady doctors of the Dominion. The circumstances of her passing away are particularly sad, for it was only two weeks before that she returned to Toronto, after patiently nursing at her home in Tottenham her father and two sisters, who were suffering from the same disease, to which she herself succumbed, the father's illness proving fatal in spite of the careful attention of Dr. Greenaway.

The deceased lady was a graduate of the Women's Medical College in 1899, and took first-class honors at Trinity University. She afterwards took a post-graduate course for one year at a West Philadelphia Hospital. For the past five years she has carried on a successful practice in Toronto. Dr. Greenaway was a lecturer on the diseases of children at the Women's Medical College, Secretary of the Alumnae Association and lecturer to the nurses at the Orthopedic Hospital.

News of the Month.

THE NEW ONTARIO PROVINCIAL BOARD OF HEALTH.

THE composition of the new Provincial Board of Health was announced recently. It is as follows:—

Dr. Charles Sheard, Medical Health Officer of the city of Toronto, who, it is understood, will be chairman.

Dr. Milton I. Beeman, of Newburgh, who has acted as Medical Health Officer for various municipalities in his district.

Dr. John W. S. McCullough, of Alliston, one of the Board of Examiners of the Ontario Medical Council.

Dr. C. Bernard Coughlin, of Peterborough.

Dr. W. J. Robinson, of Guelph, Medical Health Officer of that city.

Dr. W. R. Hall, Medical Health Officer, of Chatham.

Dr. C. A. Hodgetts, the permanent secretary, will, of course, continue in that capacity with the new board. The term of the members—outside of the secretary—is three years. The board holds regular quarterly meetings and special meetings when occasion demands it. The old board passed out of existence on August 21 of this year, and none of its members were reappointed.

The American International Tuberculosis Congress.—

Notices have been sent to many physicians throughout the United States, and are appearing in the medical and public press regarding an "American International Tuberculosis Congress," to be held in New York City, November 14 to 16 next, and an association known as "The American Anti-Tuberculosis League," which is to meet in Atlantic City next June at the time of the meeting of the American Medical Association. It should be stated that the gathering in New York next November and the one in Atlantic City next June have no connection whatever with the International Congress on Tuberculosis, authorized at the last session in Paris in 1905, which will hold its meeting in Washington in 1908, under the auspices of the National Association for the Study and Prevention of Tuberculosis. (Prof. Adami, of Montreal, wishes it stated that he is not a member of this association, nor has he any connection with it.)

The Physician's Library.

A Manual of Medicine. By THOMAS KIRKPATRICK MONRO, M.A., M.D., Examiner to the Faculty of Physicians and Surgeons, Glasgow; Professor of Medicine in St. Mungo's College, etc., etc. Second Edition. 1906. London: Bailliere, Tindall & Cox. Canadian Agents: Carveth & Co. Price, \$4.00.

Monro's *Manual of Medicine* occupies a place between a short treatise and a large text-book. The matter is brought well up to date, is presented in a clever and forcible style, and is not choked up with too much detail. The present edition is handsomely gotten up, well bound, and covers the whole range of general medicine, including a very good section on diseases of the skin. Among the infectious diseases a short account of the diseases more common to the tropics is given, including Beri-Beri, Dengue, Weil's Disease, Yellow Fever, The Plague, Trypanosomiasis, etc. This chapter can be read in a very short time, and contains much that is instructive. The section on diseases of the nervous system is exceptionally complete and clearly written. The treatment of disease throughout is conservative, but due mention is made of all modern methods. The book would be very useful to students in the final years and young practitioners.

E. A. M'C.

Indications for Operation in Disease of the Internal Organs. By PROF. HERMANN SCHLESINGER, M.D., Extraordinary Professor of Medicine in the University of Vienna. Authorized English Translation by Keith W. Monsarrat, M.B., F.R.S.C., Ed. Surgeon to the Northern Hospital, Liverpool. Bristol: John Wright & Co. London: Simpkins, Marshall, Hamilton, Kent & Co., Limited. 1906.

The author of the book, Professor Schlesinger, University of Vienna, states, that he was induced to write it by the fact that practitioners have frequently expressed to him a desire to possess some concise work, which would serve as a guide in determining the necessity for surgical intervention in diseases of the internal organs. He has written, therefore, essentially for the practitioner. In Canada, and in the United States most regular physicians are general practitioners, so that this work should be useful particularly to men not in hospital practice, in order to enable them to form an independent opinion as to the advisability of an operation in a case of internal lesion.

The author treats the diseases of the various organs of the human body in 456 pages. In Appendix I, he gives the indications for the Induction of Premature Labor, pp. 459-472.

In Appendix II, he treats of Operations on Diabetics, pp. 473-476.

In Appendix III, he treats of the General Influence of Operations on the Body, pp. 477-490.

There is a full index, pp. 491-498. The English translation by Dr. Monsarret, Surgeon to the Northern Hospital, Liverpool, is well done.

J. J. C.

Anesthetics. A practical handbook, by J. BLUMFIELD, M.D. Cantab, Senior Anesthetist to St. George's Hospital, etc. London: Bailliere, Tindall & Cox, publishers. 1906.

This handbook, which belongs to the "Medical Monograph Series," edited by David Walsh, M.D., deals very tersely with the "Nature and Action of the Common Anesthetics. Their chemical properties, the physiological points involved, the respiratory embarrassment, the various stages incident to anesthesia, the apparatus to be used, position of patient, methods of administrations, the merits and demerits of the different anesthetics, in brief all the factors that any one giving an anesthetic should be thoroughly familiar with, are discussed in an intelligent, practical and scientific manner, by an expert anesthetist.

J. H.

The Health-Care of the Baby. A Handbook for Mothers and Nurses. By LOUIS FISCHER, M.D. Author of "Infant Feeding in Health and Disease," "A Text-book on Diseases of Infancy and Childhood," Attending Physician to the Willard Parker and Riverside Hospitals: Former Instructor in Diseases of Children at the New York Post Graduate Medical School and Hospital, etc., etc. New York and London: Funk & Wagnalls Company. 1906.

This book is full of common sense. It does not go into the subject very deeply, but it goes into it in a way that will result in health to those children who are fortunate enough to have nurses that are familiar with this writer. It is a book full of suggestion which will be a comfort to every nurse and mother, and while it does not interfere in any way with what is considered proper medical treatment, wherever it is studied it will relieve the medical man in attendance from a great many of those little worries, which are simply the result of neglect on his part to give directions about things that he naturally considers the nurse and mother should understand. Every nurse should study this book, and a vast number will benefit by it.

A. J. J.

Gastric Surgery. The Hunterian Lectures delivered before the Royal College of Surgeons of England. February 19th, 21st and 23rd, 1906: By HERBERT J. PATERSON, M.A., M.B., B.C. (Cantab), F.R.C.S. (Eng.). London: Bailliere, Tindall & Cox. Canadian Agents, J. A. Carveth & Co., Toronto, Ont. Price, \$2.00.

Considering the rapid strides made in this branch of surgery it was a happy thought that caused Mr. Paterson to choose the subject of Gastric Surgery for the Hunterian Lectures.

The literature of the subject has been carefully gone into and a number of useful tables showing results are given.

The writer is glad to see that Murphy's button is condemned thus: "And is an appliance, in my judgment, altogether out of place inside the abdomen."

Evidently the author has had no experience with McGrath's elastic ligature in gastro jejunostomy, for no mention is made that there even was such a method. Perhaps it is as well for, to the writer, it seems that some of the objections to the Murphy button might well be urged also against the elastic ligature.

As the technique of Gastric Surgery advances, we feel certain that mechanical contrivances such as these will become more and more things of the past.

F. N. G. S.

The Influence of the Mind on the Body. By PAUL DUBOIS, M.D., Professor in the University of Berne, author of "The Psychic Treatment of Nervous Diseases." Translated from the Fifth French Edition by L. B. Gallatin. New York and London: Funk & Wagnalls Company. 1906.

Dr. Dubois is so widely and favorably known as a specialist in the treatment of diseases of the nervous system, particularly through suggestion, that whatever he writes will be accepted without question. Dr. Dubois does not exaggerate the value of psychic suggestion nor does he magnify it unduly. The book is interesting, and may be read not only by the profession but by many of the laity with the best possible results.

A. J. J.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries and improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M.D. Assisted by H. R. M. Landis, M.D. Vol. III. September 1, 1906. Philadelphia and New York: Lea Brothers & Co. Six dollars per annum.

This volume is devoted to reviews of recent literature on diseases of the thorax, including the lungs, heart and blood vessels; dermatology and syphilis; obstetrics, and diseases of the nervous system.

Pulmonary tuberculosis receives a fair share of attention. The greatest progress has been made along the lines of hygiene and

prevention, while there is little that is new in the way of treatment. In hemorrhage from the lungs such drugs as the tannins, adrenalin, digitalis, ergot, and lead are not recommended, but preference is given to morphia and the deep injection into the subcutaneous tissues of one to two grains of calcium chloride.

Ringworm and syphilis are considered fully along with other subjects in dermatology. Considerable attention is given to the specific organism of syphilis—the *spirochæta pallida*.

The section on obstetrics is very full. There are ample reviews of the literature of the toxæmia of pregnancy, eclampsia and its treatment, artificial dilatation of the cervix in obstetrics, caesarian section and kindred subjects.

Many interesting topics are found under diseases of the nervous system. Some of these are tumors of the brain, cerebral localization, meningitis and neuritis.

All the sections are good and they contain much that is valuable, but the one devoted to obstetrics is above the average, and is full of interest from the beginning to end.

A. E.

The Practical Medicine Series, comprising ten volumes, on the year's progress in Medicine and Surgery. Under the general Editorial charge of GUSTAVUS P. HEAD, M.D., Professor of Laryngology and Rhinology, Chicago Post Graduate Medical School. Volume II. "General Surgery," Edited by JOHN B. MURPHY, A.M., M.D., LL.D., Professor of Surgery in Rush Medical College (in affiliation with the University of Chicago).

As the mere mention of a large number of cases treated surgically, even when they are pretty fully described, does not seem to produce as good results or be as satisfactory to the reader as it is to have a smaller number of articles written by thoroughly good authorities explained in every detail, the writer evidently feels that in matters of detail of surgical practice, that is in technical procedures, the practitioner of to-day should be fairly well versed, and he appreciates the fact that surgery is not now a mere matter of routine but that better results after operation are demanded. He recommends, particularly in abdominal surgery, very early operation, and proves that the greatest achievement in life saving results are from limited manipulation and the performance of the operation at the time that the patient is most able to bear the shock well.

The book is a *resume* of what must be classed up-to-date procedure, but it is more than that, as many of the subjects treated of are so thoroughly gone into and considered from every standpoint that the reader must feel that he has at least learned something of value if he only reads two or three pages.

In Vol. III we have a book treating of all these subjects together.

although it is difficult to see, except from a practitioner's standpoint, why diseases which require a thorough knowledge of optics should be classed with those of the deeper passages of the throat and nose. Ocular symptoms, noticed more particularly with regard to general diseases, occupy a large place in this book, and in that way the book itself becomes of practical value. Treatment is well taken up, and considerable space is devoted to it. Altogether the general practitioner has in this book a large class of material in a very convenient form easily read, and embodying, as all the books of this series do, the best opinions. A. J. J.

Eczema. A Consideration of its Course, Diagnosis, and Treatment, embracing many points of Practical Importance, and containing 146 Prescriptions, illustrating Dosage in Local Applications. By SAMUEL HORTON BROWN, M.D., Assistant Dermatologist, Philadelphia Hospital; Dermatologist, Southern Dispensary; Assistant Dermatologist, University Hospital Dispensary, etc. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. 1906.

This may be considered an exhaustive treatise on this troublesome disease. The characteristic of the whole book is its dogmatism. Facts are presented with a determination that carries conviction. In many books on diseases of the skin treatment is so generalized that it loses much of its value; in this, on the contrary, explicit treatment as to the care of the various cases is laid down so that the reader will have no difficulty in grasping every detail of treatment that the writer recommends. The general practitioner, or even the specialist on diseases of the skin, with this book to refer to should find his knowledge of treatment up to date. A. J. J.

The Ear and its Diseases. A text book for students and physicians. By SETH SCOTT BISHOP, B.S., M.D., LL.D. Illustrated with twenty-seven colored lithographs and two hundred additional illustrations. F. A. Davis Company, publishers, Philadelphia. 1906.

The author has found it desirable to write a separate work dealing with the ear alone. In his recent book on Disease of the Nose, Throat and Ear, the aural part was necessarily curtailed considerably. This book is the result of many years of practice, and contains those ideas which the author, as a teacher, considers essential for both students and practitioners. The anatomy of the ear is very freely and clearly given, and is splendidly illustrated.

A great deal of unnecessary space is given to the fitting up and use of compressed air in aural practice. Undoubtedly it is of value and of great convenience, but not of sufficient practical use to deserve two chapters of a book. Some of the illustrations do not seem

to be called for. We think the cuts showing arrangement for a treatment room, a mastoid operation, operating room and accessories and several showing mastoid scars months after the operation, might very well have been left out. On the other hand the illustrations of both sections are excellent. The appendix contains a large number of formulae which always add to the practical value of a book. The work will be found of great practical value to the student and general practitioner.

P. G. G.

A Manual of Bacteriology. By HERBERT U. WILLIAMS M.D., Professor of Pathology and Bacteriology, Medical Department University of Buffalo. Revised by R. Meade Bolton, M.D., expert Bureau of Animal Industry, Washington, D.C. 4th edition, revised and enlarged. Blakiston's Son & Co., Philadelphia.

That a new edition of this work has been called for in two years' time speaks well for its popularity, when one considers the number of text-books on the market. This edition has been revised by Dr. R. Meade Bolton, and special chapters upon disinfectants and anti-septics, and upon the preparation of ligatures, etc., for surgical purposes, have been contributed by Drs. T. B. Carpenter and Marshall Clinton respectively. The revision has been thorough, and the work will be found well up to date. The chapters on Bacterial Poisons and Immunity will be found clearly written and complete.

The Medical Annual Synoptical Index to Remedies and Diseases.

For the six years 1899 to 1904. Bristol : John Wright & Co., Stone Bridge. London : Simpkin, Marshall, Hamilton, Kent & Co., Ltd. New York : E. B. Treat & Co. Calcutta : Thacker, Spink & Co. Melbourne, Sydney, Adelaide and Brisbane : G. Robertson & Co. Sydney : Angus & Robertson. Toronto : J. A. Carveth & Co.

Readers of the *Medical Annual* will find this little work a useful key when it is desirable to refer to some special article in any of the volumes from 1899 to 1904. It is a handy book for the desk or to carry in one's satchel, as it contains most of the facts likely to be looked for in everyday practice. Suggestions as to the latest methods of treatment, the actual formula of prescriptions, etc., are dealt with in the text.

J. J. C.

A New Edition of Morris' Anatomy.—For the first time in the history of the book American anatomists have been asked to contribute original articles and revise sections in a new edition of Morris' "Anatomy." By thus incorporating the results of recent investigations in American laboratories the book will have more of an international character, have a wider point-of-view,

and be of greater use to teachers and students. Professor J. Playfair McMurrich, of the University of Michigan, has assumed the American editorship and will himself contribute two articles. This edition of Morris will be, to large extent, a new book, modern in detail of both text and illustration, and in every respect representative of progressive methods and thought. The following is a list of American teachers who have been prevailed upon to assume this onerous task: J. Playfair McMurrich, A.M., Ph.D., Professor of Anatomy, University of Michigan; Charles R. Bardenheer, A.B., M.D., Professor of Anatomy in the University of Wisconsin; Florence R. Sabin, B.S., M.D., Associate Professor of Anatomy in the Johns Hopkins University; Irving Hardesty, A.B., Ph.D., Assistant Professor of Anatomy, University of California; G. Carl Huber, M.D., Professor of Histology and Embryology in the University of Michigan; R. J. Terry, A.B., M.D., Professor of Anatomy, Washington University, St. Louis; Abram T. Kerr, B.S., M.D., Professor of Anatomy, Cornell University.

Lectures on Midwifery for Midwives. By A. B. CALDER, M.B., M.R.S.C. Lecturer on Midwifery to London County Council, to St. Mary's Midwifery Training School, Fulham, to St. Clement's Maternity Home, Fulham, London: Baillière, Tindall & Cox, etc., 8 Henrietta Street, Covent Garden. Dublin: 16 Lincoln Place. 1906. Canada agents, J. A. Carveth Co., Ltd., Toronto.

These lectures have been published just in the exact words they were delivered to the class thereby "not hiding the wood by the trees," as additional detail might have done. They have been divided into fifteen lectures, commencing with the anatomy and physiology, and include such important subjects as asepsis, sepsis, infant feeding, etc., all written in a most lucid style, and should prove invaluable to the class for which they are intended, viz., maternity nurses.

W. H. P.

A Text Book of Human Physiology, by DR. ROBERT TIGERSTEDT, Professor of Physiology, in the University of Helsingfors, Finland. Translated from the third German edition and edited by John R. Murlin, A.M., Ph. D. With an introduction by Prof. Graham Lusk, Ph.D., F.R.S. New York and London: D. Appleton & Co. 1906.

Tigerstedt's physiology was first published in 1897, and ever since it has been the favorite text book of German students. Prof. Murlin has now placed it within the reach of all English speaking students.

The opening chapter is an excellent introduction along the lines of general physiology. It gives a description of the biological processes that occur in the humbler forms of living things, and seeks to illustrate these by a general examination of the vital phenomena

of cells. While all the chapters in the book are full and complete, these treating on metabolism, circulation, and the central nervous system are unusually so.

The work contains 305 illustrations, 63 of them being in colors. Many of these illustrations are original, and all of them are good. Students of physiology will find this a very satisfactory text book, and we feel sure that the English translation will be a success.

A. E.

Some of H. K. Lewis' publications.—The following comprise some of the latest works published by the well-known firm of H. K. Lewis, Gower St., London, England. "The Theory and Practice of Medicine." By FREDERICK T. ROBERTS, M.D., B.Sc., F.R.C.P. "Medical Electricity." A Practical Handbook for Students and Practitioners. By H. LEWIS JONES, M.A., M.D., F.R.C.P. "Diseases of the Skin: their Description, Pathology, Diagnosis and Treatment." By H. RADCLIFFE-CROCKER, M.D., Lond., F.R.C.P. "Clinical Bacteriology and Hematology for Practitioners." By W. D'ESTE EMERY, M.D., B.Sc. "Medical Electricity." By H. LEWIS JONES, M.A., M.D., F.R.C.P. "Hygiene and Public Health." By LOUIS C. PARKES, M.D., D.P.H. and HENRY R. KENWOOD, M.B., D.P.H., F.C.S. "Diseases of Women." By ARTHUR H. N. LEWERS, M.D., Lond., F.R.C.P. "Dental Surgery." By ASHLEY W. BARRETT, M.B., M.R.C.S., L.D.S.E. "A Manual of Ophthalmic Practice." By C. HIGGENS, F.R.C.S.

Surgery, Its Theory and Practice. By WILLIAM JOHNSON WALSHAM, F.R.C.S. England; M.B. and C.M. Aberdeen; formerly Surgeon and Lecturer on Surgery, St. Barts Hospital, and Member of the Court of Examiners, Royal College of Surgeons of England. Ninth Edition, with 620 illustrations, including 24 skiagram plates by Walter George Spencer, M.S., M.B. (Lond.), F.R.C.S. England; Surgeon and Lecturer on Surgery to the Westminster Hospital; Examiner in Surgery, University of London. London: J. & A. Churchill, 7 Great Marlborough Street. 1906. Canadian Agents: J. A. Carveth & Co., Ltd., Toronto.

It is just three years since the last edition of this book came from the printers. About that date Mr. Walsham's death took place, due in some measure, at least, to the hard and consistent work he had done in getting his volume revised. It speaks well for any book, no matter what its subject is, that in but nineteen years it has to be practically re-written no less than eight times. We find this edition to be thoroughly revised, and in many parts quite new. Over one hundred and twenty-five new illustrations have been added, including some very valuable skiagrams of fracture cases.

The Ship-Surgeon Handbook. By A. VAVASOUR ELDER. M.R.C.S., L.R.C.P., Surgeon, Orient Steam Navigation Co., late Surgeon, British-India Steam Navigation Co. London: Baillière, Tindall & Cox, 8 Henrietta Street, Covent Garden. 1906. (All rights reserved.)

A useful guide to the uninitiated medico who is contemplating a voyage as ship surgeon.

The small volume is replete with hints from cover to cover. It also makes interesting reading for the "land" surgeon, as some of the situations depicted are most amusing.

The intending ship surgeon should certainly take it along.

W. H. P.

The Healers. By MAARTENS MAARTENS. Toronto: The Copp, Clark Company, Limited.

A strange story, morbid, humorous, possibly scientifically handled, but of course doctors differ nowadays. The eccentric old Professor of Bacteriology and his wonderful Semicolon Bacillus, his bright son, a pupil and follower of Chareot, his psychic daughter-in-law, and the patient, a titled fool, a poor imbecile boy, with several other characters wonderfully well drawn, form the personelles of a remarkable and very interesting tale; and yet one almost wonders why it was written. A discussion of this novel on some "off night" at a medical society meeting would prove diverting.

W. A. Y.

Phlebitis and Thrombosis. The Hunterian lectures delivered before the Royal College of Surgeons of England, in March, 1906. By WARRINGTON HAWARD, F.R.C.S., Eng. Hunterian Professor of Surgery and Pathology in the Royal College of Surgeons of England; consulting surgeon to St. George's Hospital; president of the Royal Medical and Chirurgical Society. London: Baillière, Tindall and Cox, 8 Henrietta Street, Covent Garden. 1906. (All rights reserved.) Canada agents: J. A. Carveth, Ltd., Toronto.

The Hunterian lectures this year comprise a scholastic summary of the recent scientific research and investigations in these most common yet subtle conditions. They form highly nutritious and satisfying mental food.

The lectures are divided into three. The first taking up the cause, process, and varieties of thrombosis. The second, treats of other special kinds of phlebitis and thrombosis as varix, gouty, syphilitic. The third tells of thrombi of cerebral, etc., sinuses, mesenteric veins, gastric, portal, etc., the remote effects and treatment of these conditions.

W. H. P.

Elements of General Chemistry with Experiments, by JOHN H. LONG, M.S., Sc. D., Professor of Chemistry in the North-Western University Medical School. Fourth edition. Revised and enlarged. Illustrated. Philadelphia: P. Blakiston's, Son & Co. 1906. Price \$1.50.

This is a handy little volume designed to meet the requirements of medical students and others in the first year of a college course. Most of the exercises are simple and the experiments are arranged so that they may be performed with the aid of comparatively simple apparatus.

The text matter is condensed, but at the same time it fully covers the course for beginners.

A. E.

LITERARY NOTE.

A distinction of no mean degree has been conferred upon an American book, the joint authorship of Drs. J. MADISON TAYLOR and WILLIAM H. WELLS. The revised second edition of their treatise on "Diseases of Children," published by P. Blakiston's Son & Co., of Philadelphia, has been translated into Italian by Dr. Mario Flamini, of the Pediatric Clinic of Rome, with contributions by Professor Concetti and Dr. Valagussa. The translation has proved very popular abroad, and the occasion is one of felicitation, not only to the authors but to American medicine generally, inasmuch as the work was chosen as being adapted to clinical teaching in Italy. Few American books have attained such honor. Its success abroad is but a repetition of the favor which it enjoys here.

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Original Contributions.

THE HYGIENE OF THE HOME.*

By J. J. CASSIDY, M.D.,

Member of the Provincial Board of Health, Toronto.

IN erecting a dwelling-house, special efforts should be made by the builders to secure dryness of the site. If the ground is dry and firm, and, if possible, underlaid with gravel or coarse sand, the site will be a naturally dry and healthful one. It is generally directed that dwellings should be erected so as to face the south, but this rule is objectionable, for, if the front faces towards the south the back of the house must face towards the north. If it is possible to secure it, an ideal location would be one in which the corners of the house point north and south, for, in that case, every window must receive direct sunlight at some time during the day, whereas, with sides facing directly north and south, the windows of the former receive no direct sunlight and the rooms are dull and cheerless. In general it may be said that a house should be so situated as to receive plenty of light and air. Shadows of adjacent buildings and trees should be avoided, so as to ensure ample exposure to light, as the darkening of rooms, caused by obstructions to light, makes gloomy rooms, which are injurious to the eyesight and the health of the occupants. As far as possible, sunlight should penetrate into every room of the house at some period of the day. The general arrangement and design of the home should, therefore, be made to conform to these requirements.

Of the greatest importance is the character of the basement of

* Read at meeting of the British Medical Association, Toronto, August 21-25, 1906.

the dwelling. The basement should extend beneath the entire house, and should, if subdivided, be provided with doors connecting all its subdivisions. Windows of sufficient size should be placed in the exterior walls of the basement, extending nearly to the top of the wall, so as to permit the entrance of light and the free circulation of the air.

Frank L. Packard, an architect, of Columbus, Ohio, says:

"The excavation for the foundation of the house should be made at least one foot larger on all sides than the walls to be built within the excavation, and trenches should be excavated at least 8 inches below the basement floor. These trenches should be made about 6 inches wider than the walls of the foundations. Extending around the outside wall, and on a level with the bottom of the trenches, lay a 3 inch soft tile drain, with proper fall to carry off any water that may come down from the surface. Fill the trenches with good coarse concrete the full width and depth of the trenches. This is known as the footing-course—one of the courses of masonry at the foot of the wall, broader than the courses above. The walls of the foundations may be of stone, brick, tile or concrete. In any event, they should be laid in mortar composed of good, sharp, clean sand and cement of good quality, all well bonded together, and all joints shushed up."

The foundation is intended to serve not only as a firm support to the building, but also as a barrier to the moisture and the damp air of the soil. Illuminating gas, escaping from leaking mains, has been known to enter a house by the basement. Besides, the air of the soil occupies the upper layers of the soil and fills all the interstices—as far down, at least, as the surface of the ground water. Decomposition and putrefaction are constantly going on in the soil, and the gases arising from these processes diffuse themselves through the soil. To prevent the entry of ground air or other deleterious gases into a basement, the late Colonel Waring, of New York, an eminent engineer, said:

"One of the safest materials for a cellar bottom and for the external packing of foundation walls is a clean, smooth, compact clay, which may be beaten into a close mass, and which has a sufficient affinity for moisture always to retain its retentive condition, for, when used in the damp atmosphere of a cellar or about a foundation, it seems to offer a good resistance to the passage of impure air. In the cellar, of course, it may be covered with concrete for cleanliness and good appearance; but 6 inches of clay, well rammed while wet, will impede the movement of air to a degree with which ordinary cellar concrete can furnish no parallel. When clay is not available a good smearing of asphalt over the outside of the foundation wall and a thick layer of asphalt between two thicknesses of concrete for the bottom of the cellar will afford a com-

plete, though more costly, protection. Asphalt used in substantially the same way, if in connexion with a solid course of slate or North River blue stone in the foundation wall, above the ground level, will prevent the soaking into the structure of the moisture of a heavy soil."

Before the interior of the cellar is completed the waste-pipes and the drains for the plumbing fixtures and catch basins should be laid. The pipes should be of cast iron pipe, varying in size from 4 inches to 6 inches, provided with the necessary traps, clean-outs, and vents. A cheaper method is to use No. 1 salt-glazed sewer pipe, care being taken to see that the tile pipes are laid on a hard surface with a proper fall, and that all joints are well cemented. As a general rule, moderately hard, well-burned brick is the most serviceable material for outside walls. Sometimes, in exposed situations, it becomes necessary to cover an entire brick wall with a protective coating of paint, or even with a sheathing of tin-plate, owing to the fact that an unprotected brick wall becomes wet through by driving rain and does not quickly become dry again. For protection against dampness and cold, external walls should be built with an intervening air space, which acts like a double window. The outer and inner faces of the wall are joined at intervals by bonding bricks or ties of various materials, including hard, non-porous bricks, glazed bricks, and iron. A superstructure made of painted clapboard is often drier than one of brick, in an exposed situation. During hot weather clapboard walls are advantageous, because they cool rapidly after sunset. On account of the numerous joints and fissures in a frame wall, natural ventilation goes on through it very readily and to a considerable extent. The application of paint to walls of brick or wood, either within or without, completely checks the passage of air through the walls and limits natural ventilation. On the other hand, calcimine offers little obstruction to the passage of air. Wall papers are almost midway between paint and lime coating in their obstructive effect on the passage of air through walls. In northern climates, it will always be necessary to pay attention to the thorough construction of the walls of houses, so as not to permit a too large amount of natural ventilation taking place through the walls and a too great waste of heat.

The inside of the walls of a house should be of lath and plaster, thus providing a dead air space, which is a non-conductor of heat or cold.

All door and window spaces should be made tight, by means of felt strips and strips of zinc nailed and interlocked into the sheathing. The roof should be constructed so as to give a dead air space; it should be covered with felt preparatory to receiving the weathering material, whether it be shingle, slate, tile or metal.

All plumbing and gas-pipe fittings should be exposed, the pipes should be of the best wrought iron, put together with lead joints and tested so as to be airtight. The plumbing fixtures should be ventilated in the most approved sanitary manner, and the fixtures, without being expensive, should be of the best patterns.

The old fashioned floors made of boards entirely too wide and with open joints are never used in the modern dwellings. Floors can be made of hard pine, as well as of oak or maple. Narrow boards, evenly matched, fitted with elastic filler, and well beeswaxed, cost no more than a good carpet. If desired, rugs, which are easily handled, can be laid on some of the floors.

In finishing the rooms, covered corners should be used at the base at the floor level, and the angles of the ceilings and walls should be covered. Good plaster is best for the walls and ceilings. Wall papers should be avoided; when necessary, paint and enamel should be used. Rooms should be well lighted, the windows and doors extending well up to the ceiling. A judicious arrangement of the openings for light also provides for the ventilation of the rooms, by supplying cross draughts and a good circulation of air. As things go, however, a room cannot be ventilated in stormy or cold weather, unless it is provided with a working chimney flue. Whatever the system of heating a house may be—stoves, warm air furnace, hot-water pipes—it will be found that the presence of chimney flues in the rooms will facilitate the regular escape of vitiated air and the entrance of fresh air. When a warm air furnace is used to heat a dwelling, it is found that it is difficult to warm rooms which have no flues, because, in order to provide for the easy flow of warm air into the rooms, it is also necessary to provide for the escape of air from the rooms.

In probably no room in the dwelling is the evidence of correct hygiene looked for more expectantly than the bedroom. The ordinary hotel bedroom, or the bedroom in a good many houses, is not a thing of beauty; from the standpoint of hygiene it is frequently a source of sadness—dusty carpets, window curtains rarely cleaned, arsenical wall paper, redolent with tobacco smoke, are not conducive to healthy dreams. The bedchamber of the twentieth century is to be a picture of simplicity blended with taste. There will be no microbe-catching carpets to be dusted; just a washable rug beside the bed. The waxed floor will be mopped every morning with a damp woollen cloth. The ceilings and walls will be painted white with enamel paint. The window curtains will be of cotton or some other washable fabric, and will be frequently laundered. The iron bedstead, with its woven-wire mattress will contain just the needful quantity of clothes.

It is to be hoped, however, that less pretentious portions of the home will not be neglected. In a way, the most important parts of a dwelling are the basement and the kitchen.

The cleansing of the kitchen and its contents should be frequent and thorough. Garbage and refuse should always be kept under cover until removal, and this should be done methodically and at frequent intervals.

The automatic ventilation of the kitchen by a collecting cowl and heated flue is a praiseworthy feature of domestic economy. In Gouge's system of ventilation, the ventilating flue in the kitchen is heated by a gas jet, situated at the bottom of the flue.

As care has been taken by the builders in erecting a house to prevent the ingress of ground air and other deleterious gases into the basement, the housekeeper should also pay the greatest attention to the hygiene of the surfaces of this part of the dwelling, where the general over-seeing eye does not penetrate, as it does to the drawing room, where she receives her friends.

Selections, Abstracts, Etc.

HORACE WELLS.

Humanity's Greatest Benefactor, the Discoverer of Anesthesia.

BY BURTON LEE THORPE, M.D., D.D.S.

THE subject of this sketch descended from true New England stock, and himself possessed in a marked degree all those qualities which characterize a New Englander. His ancestors were among the earliest settlers of Windsor, Connecticut, under a name supposed to have been originally Wills, but in the progress of time changed to Wells. The grandparents of Horace were Captain Hezekiah Wells and Sarah (Trumbull) Wells. Captain Wells served with honor in the war of the Revolution; and was a man of much influence. He died in 1817. The old homestead, which he built in East Windsor, Connecticut, one hundred and seventy years ago, still remains in the family.

Horace Wells, father of Dr. Horace Wells, married Miss Betsy Heath, of Warehouse Point, Connecticut, and soon removed to Hartford, Windsor County, Vermont, where the subject of this sketch was born January 21st, 1815. This son was the oldest of three children, the other being Charles Wells, M.D., who practiced at Manchester, New Hampshire, and Mary, wife of Captain John Cole, a sea captain who resided in Medway, Massachusetts. Mr. Wells, soon after the birth of his first child, purchased a large farm at Westminster, Vermont, near Bellows Falls, on the Connecticut River. Here in a beautiful and romantic locality, and surrounded by every comfort his father could furnish, the childhood of Horace was passed. The parents of young Wells were intelligent, and, for that region, wealthy; and having the opportunity, gladly gave their children every advantage for moral and mental culture, sending them to the best schools, and sparing no expense to make them useful members of society. When Dr. Wells attained manhood he was peculiarly active in mind and of a generous disposition.

Young Horace was kept at a select school until he was thirteen years of age, and then went to Hopkinton, New Hampshire, where he spent a year in a private school for boys, kept by a Mr. Ballard, who entertained a very high opinion of the mental quali-

ties of his scholar. Much of his education, before commencing business, was acquired at the academies in Amherst, Massachusetts, and Walpole, New Hampshire. During these latter years he taught one district and many writing schools. While at the academy in Amherst he became converted and united with the church, and afterwards led a strictly religious life; he even at one period thought seriously of fitting for the ministry.

Young Wells manifested at an early day the traits so characteristic of the New England boy. He had a mind of uncommon restlessness, activity and intelligence. He early manifested great inventive genius and mechanical talent, and after reaching manhood was known in Hartford as quite an inventor. He constructed and patented several machines which would unquestionably have paid well if pushed upon the market; but he considered his work done when the ideal was embodied and in working order, and his restless mind, regardless of pecuniary considerations, flew off to try its powers upon some other subject of thought.

In the year 1834 he commenced the study of dentistry at Boston. Dental colleges were not then established, but Wells acquired the best professional education at that time possible, and after completing his studies opened an office in that city. The residence in Boston made him acquainted with medical men there, a fact which influenced him in seeking medical assistance at that place rather than in New York at the time when he announced his great discovery of anesthesia, an occurrence he afterwards had deep reason to regret. Still he was not frustrated in his main design, viz., letting the world know how valuable his discovery was, for his visit to Boston and statement of his case did result as he hoped in its reception by the world, yet in a manner greatly trying to one so artless and truthful, and so far removed from every taint of selfishness and dishonor.

Wells's ingenuity led him to invent and construct most of his dental instruments, and the dexterity and judgment with which they were used soon made him popular, and he speedily took rank among the first in a city justly celebrated for its skilful dentistry. His professional brethren admit his high standing in the department to which he devoted himself.

In August, 1840, L. P. Brockett, of Brooklyn, New York, then a medical student at Hartford, went to Dr. Wells to have a molar tooth extracted. The operation was so difficult and painful that Dr. Wells remarked, "There ought to be some method of mitigating such suffering."

He had several students, among them John M. Riggs, of Hartford, and Wm. T. G. Morton, of Boston, the latter of whom afterwards was one of those who laid claims to the discovery of the principle of anesthesia. In later years Dr. Riggs was very active in the development of the idea which immortalized Wells, particu-

larly at the period when a little discouragement would probably have retarded, if it had not completely prevented, its development. Dr. Riggs was, moreover, honored by being the first individual who ever operated on a patient under the influence of anesthesia. He did this on Wells himself, by extracting a tooth. It was fitting that the head which gave birth to so great a thought should itself furnish the first practical clinical proof of its importance. Still, though very instrumental in aiding the great discovery, and most honorably connected therewith, Dr. Riggs ever honestly gave the credit to Wells, in whose brain the thought took its inception. Dr. James McManus, who has made a careful study of the subject, says:

"Professor G. Q. Colton gave a course of lectures on chemistry and natural philosophy in Hartford early in December, 1844. To popularize the idea as well as amuse the audiences at these lectures the exhibition of the effects of laughing-gas on willing subjects was made a special feature of the entertainment. Dr. Horace Wells, well known in Hartford as a skilful dentist, attended with his wife the lecture given the evening of December 10th, 1844. Dr. Wells inhaled the gas; the effect not being as pleasant as his wife wished for, she reproached him on the way home for taking it and making himself ridiculous before a public assembly. Dr. Wells went to that lecture to see, hear and learn. He inhaled the gas, and subsequently watched its effect on others.

"The exciting incident to him at the evening's entertainment was when Mr. Samuel A. Cooley, a well-known Hartford man, gave a lively exhibition of the effects of the gas by running and jumping about and falling, striking his legs against the wooden settees, and acting apparently perfectly unconscious of possible danger. After the effects of the gas had passed off, Dr. Wells asked him if he was hurt, and he replied that he did not know it at the time, but on looking at his legs found them bleeding from the injuries he had received. Dr. Wells, turning to Mr. David Clark, said: "I believe a man, taking gas, could have a tooth extracted or a limb amputated and not feel the pain."

"Before leaving the lecture hall Dr. Wells asked Mr. Colton whether one could not inhale the gas and have a tooth extracted without feeling any pain, and he replied that he had not given the subject any thought; that he had been giving laughing-gas for over a year and such an idea had not occurred to him, and he could not express an opinion. Dr. Wells then said that he was inclined to try the experiment on himself and have a troublesome tooth extracted if he would bring a bag of the gas to his office the next day. Late that evening Dr. Wells called on Dr. Riggs to tell him that he had attended the lecture of Professor Colton and with others had inhaled the gas, that Mr. Cooley had injured himself and was not conscious of it at the time, adding, If he did

not feel any pain, why cannot the gas be used in extracting teeth? A long discussion followed as to whether it would be right or safe for them to make an experiment with possible danger staring them in the face, but Dr. Wells was so confident and fearless that he agreed to take the gas and have a tooth extracted the next day if Dr. Riggs would perform the operation. As requested, the next morning Professor Colton, Drs. Wells and Riggs, made the experiment, having as onlookers, a Mr. Colton and Mr. Samuel A. Cooley, the star performer at the entertainment the night previous. Dr. Wells sat down in the operating-chair, took the bag in his hands, and inhaled the gas until he was insensible, when Dr. Riggs extracted an upper wisdom tooth. Dr. Wells remained unconscious a short time, and on recovering exclaimed, 'I did not feel it so much as the prick of a pin.' 'A new era in tooth-pulling.' 'It is the greatest discovery ever made,' and remarks of a similar nature, being, naturally, perfectly delighted with his successful experiment. Thus the not improbable value of nitrous oxide gas, as suggested by Humphry Davy in 1800, proved a certainty December 11, 1844, when the first surgical operation was successfully performed on Dr. Horace Wells while under its influence. On that day modern anesthesia* was given to the world, and nitrous oxide gas proved to be a blessing to suffering humanity and the forerunner of all other anesthetics.

* Prof. Colton stated that later Dr. Horace Wells came to him to learn how to prepare the gas, that he gave him full information and advised him to go to Boston for necessary apparatus, as he could not furnish it. A few weeks after leaving Hartford he saw a paragraph in the papers announcing that Dr. Wells was extracting teeth without pain, and he stated on several occasions in connection with that paragraph how and when the discovery originated. Dr. J. M. Riggs testified that, 'We were so elated by the success of this experiment that we turned our attention to the extraction of teeth by means of this agent, and continued to devote ourselves to this for several weeks almost exclusively.'

Dr. E. E. Marcey, a physician, testified that while a student at Amherst College he had inhaled the gas, and also the vapor sulphuric ether, and knew that the operation and effect of these substances were nearly similar, but he did not know that one or the other would produce insensibility to pain until Dr. Wells made the announcement. At the invitation of Dr. Wells he called at his office and witnessed the gas given and a tooth extracted, the patient showing neither excitement nor the slightest consciousness of pain. Dr. Marcey then suggested to Dr. Wells the use of sul-

* The word "anesthesia" was coined by Dr. Oliver Wendell Holmes in 1846, who wrote Dr. Morton: "Everybody wants to have a hand in the great discovery. All I will do is to give you a hint or two as to names or the name to be applied to the state produced and to the agent. The state should, I think, be called anesthesia. The adjective will be anesthetic. Thus we might say the 'state of anesthesia' or the 'anesthetic state.'"

phuric ether, his impression being that it possessed all the anesthetic properties of the gas, was equally safe, could be prepared with less trouble, was less expensive, and could always be kept on hand. Dr. Marcey said he would prepare some ether and give him some of it, and also would make a trial of it himself in a surgical case that he expected to operate on in a few days. A few days later the ether was given to the patient alluded to, and an encysted tumor the size of an English walnut was cut from his head. Dr. Wells was present, the operation was successful, and conclusively proved the anesthetic properties of ether vapor. Dr. Wells then told of a conversation held with Dr. Riggs regarding the effects of both ether and gas, and gave the opinion of Prof. Rodgers, of Washington (now Trinity) College, that the vapor of ether was much more dangerous than that of the gas.

"At the urgent request of Dr. Wells I read what I could easily procure in relation to both articles and gave as my opinion that, as the gas was more agreeable and easy to inhale than the ether, it was, upon the whole, more safe, and equally efficacious as an anesthetic." Dr. P. W. Ellsworth was also asked respecting the comparative safety of nitrous oxide gas and sulphuric ether, and he gave his opinion in favor of the gas, and advised Dr. Wells to confine himself to that agent. With ample evidence to substantiate his claim, a few weeks later, in January, 1845, Dr. Wells went to Boston to make generally known and to demonstrate his great discovery. He obtained permission of the elder Dr. Warren to address his class in the medical college, and at the close of his remarks he gave the gas to a boy and extracted a tooth. The boy made an outcry and the students hissed and cried 'Hum-bug!' although the boy on recovering said he did not know when the tooth was drawn. The first and only trial allowed Dr. Wells was denounced as a failure. If the surgeons of the Massachusetts General Hospital, or any of the medical or scientific men of Boston or the country, ever knew of the suggestion made by Sir Humphrey Davy, they evidently had forgotten it, or had not faith in his statement. Nor were they willing to treat seriously any attempt to investigate the anesthetic properties of gas.

"Dr. William T. G. Morton had been a student of dentistry with Dr. Wells in 1841 and 1842, but was living in Boston at this time, and renting an office of Dr. C. T. Jackson. About this period occurred an event which had a most important bearing on Wells's future career, and which is mentioned because showing the reason why and how Wells, Prof. Charles Thomas Jackson and Wm. G. T. Morton (the three claimants) first came together.

"Dr. Riggs had become possessed of a new and peculiar solder for plate work, a great desideratum in dentistry, whereby eighteen-carat solder could be made to flow on eighteen-carat gold. Wells proposed to set up an office in Boston, and by help of this thought

a great business could be done. The terms of partnership could not be agreed upon nor would Riggs part with his secret. Wells then set to work and speedily discovered a solder of equal quality except not quite as beautiful. With this Wells and his former student, Morton, went to Boston, opened an office, called on the chemist, Prof. Jackson (who for a round fee certified to the value and purity of the solder), and commenced business. This was what made Morton acquainted with Jackson, and shows why the aid of the latter was sought on a subsequent occasion. The partnership between Wells and Morton was brief, and the former returned to Hartford, leaving the latter in Boston.

"In the *The Boston Atlas*, October 23rd, 1844, appears the following:

"CO-PARTNERSHIP NOTICE.

"This certifies that the co-operation of Wells and Morton has been dissolved by mutual consent, October 18th, 1844.

"HORACE WELLS."

"Dr. Wells continued in the regular exercise of his profession until the year 1844, making great improvement in his department, and inventions outside of it. He wrote and published in 1838 a treatise called 'Essay on Teeth.' He built a beautiful cottage on Lord's Hill, in a spot at first supposed not particularly eligible; but his taste, cultivated by the romantic scenery of his younger days, soon developed the beauties of the situation, and a few years found the location and region around selected for some of the most aristocratic houses in the city.

"Both Morton and Jackson in conversation with Dr. Wells tried to discourage him, having no faith in his statements, and advised him to give up the use of the gas. Dr. Jackson, noted then as a chemist, treated the subject as lightly as did the medical students, calling it a humbug. That a dentist from a country town could appear in Boston and announce to the world that he had made such a grand discovery was not to be credited, and Dr. Wells soon learned that not one of the influential medical or scientific men in that learned city could be induced to interest themselves in investigating the properties of the gas or lend him any assistance whatever while he remained in that city. They preferred to hiss and cry 'Humbug!' rather than to give Dr. Wells a second chance to prove the value of his discovery. He returned to Hartford greatly depressed and in poor health, but in a short time was able to resume his practice. During that and the following year he continued to give the gas freely, and when not able from any cause to attend to the patients, he would bring or send them to the office of Dr. Riggs to have him give the gas.

"In the *Boston Medical and Surgical Journal* of June 18th,

1845, there was an article written by P. W. Ellsworth, M.D., of Hartford, Connecticut, on the 'Modus Operandi of Medicine,' in which he states that 'the nitrous oxide gas has been used in a number of cases by our dentists, and has been found to perfectly destroy pain and no unpleasant effects follow its use.' The unjust assumption of the Boston surgeons, that he had made a complete failure in the single experiment allowed him, and their contemptuous treatment of him and his claims, gave a set-back for two years to the general introduction of surgical anesthesia, and millions of sufferers were deprived of the use of a safe anesthetic for twenty years. At this time Hartford had no hospital or medical journal to push the introduction of this discovery, and for a time Hartford people alone realized that such a discovery had been made.

"Dr. Wm. T. G. Morton, while studying dentistry, lived in Farmington, Connecticut, and made frequent visits to Hartford as a student to recite to Dr. Wells. He was present when Dr. Wells gave his demonstration before the surgeons and class in Boston, and had frequent talks with him while he remained in the city. During the summer of 1845, he visited Hartford and called with Dr. Wells on Dr. Riggs to talk about the gas, and he wanted them to give him some and tell him how it was prepared. Dr. Wells referred him back to Dr. Jackson, who, he said, could prepare it for him, or tell him how it was prepared, as he knew all about it. In the summer of 1846 Miss Elizabeth Williams, of Hartford, met Dr. Morton in Stafford Springs, Connecticut; learning that he was a dentist, she told him her experience with the gas, and that Dr. Wells had extracted a tooth for her on the 6th of March, 1845. He asked her about the effect and operation of the gas, and gave no intimation to her that he had any knowledge of the gas, or any other anesthetic. Drs. Wells, Riggs and Terry continued to give the gas in their practice with success, and they were greatly surprised, when they learned that Drs. Jackson and Morton were heralded in the Boston papers in the fall of 1846 as the discoverers and inventors of a compound which, they stated, by breathing into the lungs, induced so deep a slumber as to enable them to perform the most painful surgical operations with entire unconsciousness on the part of the patient. Dr. Morton made his so-called discovery September 30th, 1846, when he extracted a tooth from Mr. Eben Frost, while he was under the influence of his pretended compound.

"He made known the result of his experiment to Dr. Jackson, and they found, as Drs. Mearns and Wells, of Hartford, had demonstrated nearly two years earlier, that by inhaling the vapor of sulphuric ether it would produce unconsciousness, and surgical operations could be performed without pain while under its influence. Soon after he called on Dr. Warren, who arranged for

him to test his compound on the 16th of October, when he made his first experiment at the hospital in a surgical case. Boston surgeons were at last convinced that anesthesia had been discovered, and Boston men were the discoverers. The managers of the Massachusetts General Hospital were now ready to claim for their institution the honor and credit of first demonstrating this great fact to the world, and Boston surgeons, Boston newspapers, and the public, were now very much interested and only too ready and anxious to assist the assumed discoverers in introducing their pretended discovery, and advising its use in general surgery.

Dr. Morton wrote to Dr. Wells, October 19th, telling him of his discovery, stating that he had patented it, and wishing to know if he would not like to visit New York and sell rights to use it. Dr. Wells replied to that letter, October 20th, that he would be in Boston soon, and he and his wife took an early train the Saturday after, arriving in Boston about midday. After dinner he called on Dr. Morton, remaining with him about two hours. On his return Mrs. Wells asked him if Dr. Morton had discovered anything new, and he replied: 'No, it is my old discovery, and he does not know how to use it.' He said he perceived what it was on entering his room; he knew it was nothing but ether. On being asked if he would assist in selling his patent rights, he replied, 'No, he would have nothing to do with him.'

Dr. Wells and wife returned home on the following Monday. The statement made in the letter of October 19th, to Dr. Wells, that he had patented his compound, was not true, and at the interview a few days later, in Boston, it did not occur to him that Dr. Morton intended to deprive him of the credit of the original discovery, but that he did claim the discovery and application of a new and more convenient agent. The possible money value that might accrue to them from the vigorous pushing of the discovery set the doctor and dentist to figuring out futures. They decided to apply for a patent, which the Patent Office records say was done in the names of Drs. C. T. Jackson and W. T. G. Morton, October 27th, 1846; but before the patent was granted, Dr. Jackson, fearing he might be censured or even expelled from the Massachusetts Medical Society if he took out a patent, made an assignment, which apparently gave to Dr. Morton all his right, title, and interest in the then assumed invention, but for which act he obligated Dr. Morton to pay him ten per cent. of all he made out of it, and later on, through his counsel, he demanded twenty-five per cent. of all the profits, both at home and abroad, which Dr. Morton refused to give.

"The patent was granted November 13th, 1846. Circulars were printed with the names of Drs. Jackson and Morton as the discoverers and inventors of a compound that later proved to be the well-known fluid sulphuric ether, and they were distributed

broadcast. Agents were sent out to sell the rights. The doctor, dentist, or anybody, qualified or not, who would pay the price, could buy the right to use this wonderful and powerful agent, the scale of prices being for cities of over one hundred and fifty thousand inhabitants, two hundred dollars; fifty thousand and under, one hundred and fifty dollars; cities under five thousand, thirty-seven dollars, for a term of seven years.

"The following advertisement was published in *The Boston Evening Traveler* of November 29th, 1846, signed by Drs. N. C. Keep and Wm. T. G. Morton:

"The subscribers having associated themselves in the business of dentistry would respectfully invite their friends to call on them at their rooms, No. 19 Tremont Row. They *confidently* believe that the increased facilities which their untied experience will afford them of performing operations with elegance and dispatch, and the additional advantage of having them performed without pain, by the use of the fluid recently invented by Drs. Jackson and Morton, will not only meet the wishes of their former patients, but secure to them additional patronage."

"This was a unique appeal to the Boston citizens for patronage, equaling, if it does not far surpass, many of the advertisements that are to be seen in the newspapers of our day.

"Soon after the extraction of the tooth for Mr. Frost by Dr. Morton, Dr. Jackson sent a letter to a friend in Paris, France, giving the particulars of his pretended discovery, stating that he had persuaded a dentist in Boston to administer the vapor of sulphuric ether to his patients when they wished to have teeth extracted, and they suffered no pain during the operation; and later a second letter, stating that it had been used in the Massachusetts General Hospital with great success. These facts he wished his friend to communicate to the Paris Academy of Sciences. Soon after the letters were sent there was a falling out between the Boston discoverers. The public then learned from their controversy of the bitter feeling existing, and found, also, that each one denied that the other had any just claim for the credit of the discovery.

"The Paris Medical Institute, in response to the letters sent by Dr. Jackson, and with the knowledge only of his claim and that of Dr. Morton, awarded to each one the sum of two thousand five hundred francs: to Dr. Jackson for the discovery of the principle, and to Dr. Morton for the application of it. The institute at the time knew nothing of the claims of Dr. Wells. While the controversy was going on so bitterly in Boston, Dr. Wells (in 1847) decided, partly on account of his health, to take a trip to Europe, and while there to interest, if possible, and to present his claim as the discoverer of anesthesia to, the English and Continental surgeons. While in Paris, he made the acquaintance of

the eminent American dentist, Dr. C. Starr Brewster, who was much interested in the subject, and through whose good influence the subject was again and properly brought before the French Academy of Medicine. The expense of this trip to Europe was paid by the purchase of pictures which Wells imported and sold on his return to the United States. On Dr. Wells's return to this country he found the influence of medical and scientific men, the professional journals, and newspapers were all in favor of sulphuric ether, and the tide running in favor of the claims of Drs. Jackson and Morton.

"Late in the year 1847 a new agent, chloroform, was introduced by Prof. James Y. Simpson, M.D., of Edinburgh, Scotland, and that for a time seemed likely to supplant sulphuric ether. Dr. Wells gave the nitrous oxide gas on January 1st, 1848, to Henry A. Goodale, and Dr. P. W. Ellsworth amputated his leg. Also January 4th, gave the gas to Mrs. Ganriel, and Dr. S. B. Beresford removed a fatty tumor from her right shoulder. Dr. Wells later in the month went to New York to visit the hospitals and to urge his claims with the surgeons in that city. The worry, annoyance and injustice done him by the rival claimants increased by the experiments he was making with different anesthetic agents, brought on a serious mental disturbance and under these influences, disheartened and despondent, he put an end to his sufferings, January 24th, 1848."

The following letter to Dr. Wells from his friend, Dr. C. Starr Brewster, arrived soon after his death:

"PARIS, January 12th, 1848.

"*My Dear Wells:*

"I have just returned from a meeting of the Paris Medical Society, where they have voted that to Horace Wells, of Hartford, Connecticut, United States of America, is due all the honor of having first discovered and successfully applied the use of vapors or gases whereby surgical operations could be performed without pain. They have done even more, for they have elected you honorary member of their Society. This was the third meeting that the Society had deliberated upon the subject. On the two previous occasions Mr. Warren, the agent of Dr. Morton, was present and endeavored to show that to his client was due the honor, but he, having completely failed, did not attend the last meeting. The use of ether took the place of nitrous oxide gas, but chloroform has supplanted both, yet the first person, who first discovered and performed surgical operations without pain, was Horace Wells, and to the last day of time must suffering humanity bless his name.

"Your diploma and the vote of the Paris Medical Society

shall be forwarded to you. In the interim you may use this letter as you please.

“ Believe me ever truly yours,
“ BREWSTER.”

Drs. Jackson and Morton from the start had persistently stated that the nitrous oxide gas was a failure; that it was not an anesthetic; and they also as persistently ignored the fact that Drs. Wells and Marcy had used sulphuric ether with success, but had decided, in consultation with Dr. Ellsworth, that as the gas was more pleasant and agreeable to take, as well as less dangerous, it would be better to continue its use in dental operations. The death of Dr. Wells left the field open for them, and as the new agent, chloroform, was making a very successful record, it soon became so popular that the use of gas was given up and by many forgotten.

Hartford had no medical school, hospital surgeons of national reputation, or professional journals, to compete with Boston, that had all these advantages, while the great influence of Boston surgeons, journals, and wealth were freely given to aid the Boston claimants in their attempt to rob Dr. Wells of the honor and credit of his discovery. Boston influence aided them in their successful appeals to the rich and the profession for remuneration, and Boston money helped them in wining and dining a memorable lobby influence in its attempts to get through Congress a bill granting them one hundred thousand dollars for the use of their pretended discovery. Through the efforts of the Hon. Truman Smith, United States Senator, and the members of Congress from Connecticut, the passage of the bill was defeated.

Soon after the introduction of chloroform, and the death of Dr. Wells, the use of gas was abandoned.

The surgeons and public were soon convinced that chloroform and ether were uncertain and dangerous agents. The frequent deaths reported and the ill effects that often followed their use, caused a feeling of dread on the part of both patient and operator, so that comparatively few cared or dared to risk taking either or giving either of them. From 1848 until 1862 the longing for a safe anesthetic was universal. Again Prof Colton appeared before the public as a lecturer and exhibitor of laughing gas. In his lectures he related the history of the discovery of anesthesia by Dr. Wells, and after his lecture in New Britain, in 1862, he gave instructions to Dr. R. C. Dunham, and he introduced the use of gas in his practice there, and in Hartford; and at a private entertainment to a specially-invited party in New Haven, June, 1863, he related the history of the discovery of anesthesia by Dr. Wells.

Dr. J. H. Smith, for many years treasurer of the Connecticut

State Dental Association, was present, and then offered to try the gas again if Colton would administer it. Colton said he would gladly do it, as he wished to again demonstrate what could be done with the gas. Their first patient was an old lady, for whom they extracted seven teeth; after recovering from the effects of the gas, she was so pleased with the result that she allowed Colton to announce to his next audience her name and that she had had seven teeth extracted without pain, and without any ill or unpleasant effects from the gas. In three weeks and two days from that time Drs. Smith and Colton extracted over three thousand teeth.

Their success induced Prof. Colton to abandon the exhibition and to establish The Colton Dental Association in Cooper Institute, New York, devoted exclusively to the extraction of teeth with the gas.

In a pamphlet published by Dr. Colton in 1866 he says: "Whatever credit I deserve in connection with this matter is derived from the fact that I revived the use of gas, after it had been condemned, dead and forgotten as an anesthetic, from 1848 to 1862. In this revival and demonstration of the value of gas as an anesthetic is not the world practically indebted to me for its use? If I had not revived it, by whom would it have been done? That poor Wells failed to convince the world of its value does not militate in the slightest degree against the honor he deserves as the discoverer of anesthesia? He did all that a man could do under the circumstance."

Dr. Colton's great faith, and the co-operation and good work done by Dr. Smith, encouraged the dental profession to again take up the use of gas, and from that time on its use has been general all over the world. It is only those who have had to undergo severe surgical operations that can fully realize what a great blessing the discovery and introduction of anesthesia is to the world, and it is only the surgeons now living that were in practice over fifty years ago, that can fully appreciate and realize the blessing this discovery is to the profession.

Several years after Dr. Wells proclaimed and demonstrated his discovery Dr. Crawford W. Long, of Georgia, discovered that he had discovered as early as 1842 the properties of sulphuric ether, and had performed an operation on a patient while under its influence. This information was not given to the public until December, 1849. He says in referring to his delay in making the fact known: "I leave it with an enlightened medical profession to say whether or not my claim to the discovery of anesthesia is forfeited by not being presented earlier; and with the decision which may be made I shall be content." It is possible that many surgeons in different parts of the world, at nearly the same time, or in the remote past may, with the aid of some agent, have per-

formed surgical operations painlessly as claimed by Dr. Long, but failing to publicly announce their success the world gained no benefit. Dr. Wells discovered, demonstrated and proclaimed the fact at once; and then within one month's time, went to Boston to make it generally known. The public should not be allowed to forget that the simple, honest desire of this dentist was to give his discovery to all, to be "free as the air we breathe." The motive that actuated Drs. Jackson and Morton, when they put their assumed invention on the market, was to get money. Its commercial value was its dominant idea, and it was well worked up. Dr. Jackson, sneaking behind the cover of an assignment of his rights in order to hold his membership in the Medical Society, demanded twenty-five per cent. of all the profits, both at home and abroad, from Dr. Morton. This resulted in a Kilkenny fight, each denouncing the other as a fraud. A bitter controversy followed, each claimant having friends enough to furnish the medical journals and newspapers with lively reading for years after.

Eighteen years after the death of Dr. Wells there appeared in the *New York Medical and Surgical Reporter* of January 6th, 1866, a report made by Dr. J. M. Carnochan, chief of staff in the New York State Emigrant Hospital, of three surgical cases that he performed, the patients being under the influence of nitrous oxide gas given by Dr. Colton, and February 10th, of the same year, he reported four more operations upon adults, making in all seven successful capital operations under the influence of the gas. After the first operation he said: "I have no hesitation in stating that the nitrous oxide gas as an anesthetic is far superior to either chloroform or ether; the operation being attended by no nausea or sickness, and without the dangerous effects often incident to chloroform and ether. It is not improbable that had Wells lived and had the boldness to follow up his early successful experiments, chloroform and ether would never have been thought of as anesthetics." In Dr. Carnochan's second report, giving a resume of seven (7) capital operations under the influence of nitrous oxide gas, he says: "I have also during this time used chloroform and ether in many operations, and my opinion in regard to the superiority of the nitrous oxide gas as an anesthetic is still unchanged. I believe, however, that there is great room for improvement in the mode of administration of the gas."

The success attending the revival of the use of the gas, and the testimony given by the surgeons in New York and elsewhere, was simply a repetition of the success attained by Dr. Wells while he was alive and able to attend to his practice in Hartford.

The General Assembly of Connecticut, in 1847, passed resolutions in favor of Dr. Wells as the discoverer of anesthesia, and declared that he was entitled to the favorable consideration of his fellow-citizens, and to the high station of a public benefactor.

The Court of Common Council of the city of Hartford passed resolutions to the same effect. The physicians and surgeons of the city united in a testimonial declaring their belief in the justice of the claims of Dr. Wells. The Paris Medical Society, January, 1848, voted that to Dr. Horace Wells, of Hartford, Connecticut, is due all the honor of having first discovered anesthesia.

The testimony of Valentine Mott, M.D., of New York, December, 1852, is that Dr. Wells is entitled to the credit and honor of the discovery. R. D. Massey, M.D., Cincinnati, Ohio, in a letter to the Hon. Truman Smith, United States Senator from Connecticut, December 24th, 1852, says: "I have long regarded Dr. Wells as entitled to the credit, and to the pecuniary award, if any such consideration is to be made, for the invaluable discovery of anesthesia."

Dr. C. H. Haywood, who was house surgeon in the Massachusetts General Hospital at the time Dr. Morton administered his pretended compound there, in a letter to U. S. Senator Truman Smith, concludes with these words: "But before all let full and ample justice be done to that noble genius which first conceived the grand idea which has been the basis of all the experiments and the father of all the discoveries. To the spirit of Dr. Horace Wells belongs the honor of having given to suffering humanity the greatest boon it ever received from science."

In the early days it was difficult to prepare the gas in large quantities, or to keep it on hand any length of time. Soon after the revival of its use, in 1862, many improvements were made in apparatus for making gas, and later, when the process was so perfected that dealers could furnish the gas to the profession in liquid form, in iron cylinders holding from one hundred to fourteen hundred gallons, to be used from as desired, without danger of waste, loss of power or purity, all the former objections to its use were removed.

Prof. S. D. Gross, of Philadelphia, some years ago, when speaking before the American Medical Association, said that "Dentistry is the most important specialty in medicine. Many people come into the world and go out of it, who never require the services of other specialists; but no child is born who does not sooner or later require the service of a dentist." True and true as this statement is, equally true is the statement that modern anesthesia, in all the varied modes of its administration, is undeniably the result of a dentist's heroic experiment and discovery. It is also sadly true that it was two years after the discovery, and after repeated successful operations in the hands of Hartford dentists, before Boston surgeons could be induced to accept the fact that an anesthetic had been discovered.

Dr. James Y. Simpson, of Edinburgh, Scotland, was the only

man connected with the introduction of anesthesia who had a remarkably fortunate life. He was eminently successful in his profession, acquired wealth, was created a baronet, and was probably better known all over the world for a while than any one else connected with the discovery. The last professional article he gave to the public was written by dictation, while on his sick bed, in reply to a bitter and unjust attack made upon him by Dr. Jacob Bigelow, of Boston. It was published in the *Boston Gynecological Journal*, May, 1870. He writes:

"An American dentist (Wells) works out to its practical results the suggestion published in England half a century before, by Sir Humphrey Davy, and which you seem to wish to efface from anesthetic records; and he travels a long distance to place the important results before the Medical School at Boston and some surgeons at the Massachusetts Hospital. There is a slip in the single experiment allowed him. He is spurned and hooted away. In doing this, the Medical School of Boston thus delays the whole subject of artificial surgical anesthesia for a couple of years. Was not the Medical School of Boston then, in your violent language, 'chargeable with the continuance of operative tortures' for that period much more than Sir Humphrey Davy? Did not your school stamp out and thus prevent for two years more the most beneficent discovery which has blessed humanity since the primeval days of paradise?"

Sir Benjamin Ward Richardson says in his monograph, "The Mastery of Pain":

"It was fortunate that ether came in before chloroform: because if chloroform had come in first, the number of deaths from it would probably have put a stop to anesthesia at once."

It is infinitely more fortunate that gas came in before ether, for the demands for its use are more urgent and general, and the deaths from it do not number more than one in over a million. There is no doubt if Dr. Wells had been a resident of Boston, an M.D., and a member of the staff of the Massachusetts General Hospital, his discovery in 1844 would have been quickly accepted. As a stranger and a dentist, his claim as a discoverer and the evidence he had to sustain it, as well as the prediction made by Sir Humphry Davy many years before as to the probable properties of the gas, could not awaken enough interest in the minds of the stupid, stubborn, and jealous men that he appeared before to induce them to make another trial of the gas. They condemned it as a humbug, and suffering humanity was deprived of the blessing of an agreeable and safe anesthetic for over twenty years.

The record of millions of successful operations made while under the influence of the gas, with evidence accumulating daily, all over the world, that the gas is a safe and reliable anesthetic,

and abundant testimony to prove that Dr. Wells was the first to submit to a surgical operation while under its influence, are facts that cannot be blotted out by the efforts of magazine writers that either ignorantly or wilfully ignore them, nor does the inscription on the ether monument that stands in the public garden in the city of Boston negative the claims of Dr. Horace Wells.

The monument in Boston commemorates the discovery of anesthesia by inhalation of ether as first proved to the world at the Massachusetts General Hospital, October, 1846. It is a beautiful work of art, with bas-relief pictures that tell to the onlooker the great blessing that some one had given to suffering humanity. The inscription tells an untrue story, and the stranger seeks in vain for the name of the world's great benefactor.

On Bushnell Park in Hartford, there stands a monument erected by the State of Connecticut and the city and citizens of Hartford, commemorating this great discovery of anesthesia first given to the world in Hartford, in 1844, with the name inscribed and a portrait statue of Dr. Horace Wells, to whom alone belongs the honor of its discovery, and who gave it to the world to be "as free as the air we breathe."

At a memorial meeting held in Philadelphia, December 11th, 1894, under the auspices of the American Dental Association, to commemorate the fiftieth anniversary of the discovery of anesthesia by Horace Wells, a committee was appointed, on motion of Dr. Robert Huey, to erect in Washington, D.C., a permanent memorial to the discoverer. It is a bronze bust, the work of J. Scott Hartley, sculptor, of New York. The cost was one thousand dollars, the contribution from members of the dental profession of America. The bust is permanently deposited in the Army and Navy Museum in the national capital.

The Connecticut State Dental Association decided to commemorate the fiftieth anniversary of Wells' discovery of anesthesia. This was held at Hartford, December 10th, 1904, under the auspices of the Association. Prominent dentists and laymen were present to do honor to the occasion. Following the banquet the assembly unveiled a memorial tablet which was contributed by 270 American dentists and presented to the city of Hartford.

Horace Wells was interested in natural history, especially in ornithology, a branch in which he was well posted and on which he gave frequent lectures to the public.

Dr. Wells died in New York on the 24th of January, 1848, aged 33 years, at a period when his claims were being acknowledged by Europe and America, and just as he received the announcement that the French Academy had honored him with their diploma of recognition. He went to New York a few weeks before his death for the purpose of introducing anesthetics in the hospital and in dentistry. But the impression that chloroform

was a better agent than nitrous oxide gas or ether led him, with his usual zeal, to experiment upon himself to a dangerous extent with this powerful and almost unknown agent. By this his mind is believed to have been injuriously affected, and this was soon conclusively indicated by acts wholly foreign to his nature. His unfortunate end, and the circumstances attending it, consummated the proof of this point—his reason had been upset, and there was nothing to stay his own hand that cut the thread of his existence.

He was buried in the North Cemetery, in Hartford, where his grave will in years to come be visited and honored by those who revere the memories of the benefactors of mankind, among whom Wells certainly was not the least.

His widow and only son survived, who, with little pecuniary ability or foreign aid and relying only on the force of truth, contended eighteen years against the power of wealth profusely lavished, and all the machinery usually brought to bear in such cases; nevertheless, truth slowly, but surely, won its way, and the discovery of Wells was acknowledged by the medical and surgical profession and by the whole scientific world.

In 1844 Horace Wells gave to the world his wonderful discovery that surgery could be divested of pain, a discovery pregnant with untold value to the world, but of almost unmingled woe and sorrow to himself and his afflicted family. His widow declared that this great boon to the world "had been to her family an unspeakable evil," for it cost the life of her husband and substituted the "*res angusta domi*" in place of a lucrative profession and a happy home.

Dr. P. W. Ellsworth says: "Knowing Wells intimately, living beneath the same roof at the time when he went to Boston to announce his discovery, and in almost daily communication with him during the whole period between the birth of his great thought and the hour when his dead body, a sacrifice to his zeal and love of truth, was borne from my own door to its last resting place, I can and do bear witness to Horace Wells only belongs the honor of giving to the world a discovery which has played a more important part as respects surgery, than any other ever made, unless we except Harvey's of the circulation of the blood. The full value of this discovery is not yet known: after ages will make new applications and further improvements.

"Wells knew nothing of Davy's suggestion, but it is to be supposed reasoned out his discovery as one works out a problem? Neither he nor any one else could do this, but his mind, directed to the subject, was prepared to seize a fact and draw conclusions therefrom.

"This fact has been noticed a thousand times by other and more learned men, but not so close observers or so rapid reasoners.

It was at once grasped by Wells, who saw at a glance the consequences which must flow from a trivial occurrence."

The facts contained in this sketch are compiled from notes on "The History of Anesthesia," by James McManus, D.D.S, Hartford (Clark and Smith, press, 1896), and from a biographical sketch on "The Life of Horace Wells, M.D.," by P. W. Ellsworth, M.D., published in "An Inquiry Into the Origin of Modern Anesthesia," by Hon. Truman Smith, Hartford (Brown and Gross, press, 1867).—*Dental Brief*.

BROMIPIN AND ITS THERAPEUTIC IMPORTANCE.

BY LUDWIG HESSE.

THE results of a very thorough investigation of the action of bromipin were published by F. Schulze, based upon the observations carried out at the Gottingen Asylum.* Schulze began with small doses of four grammes and gradually increased them until after fourteen days he gave eight grammes, and after another eight days ten grammes. That dose was continued for some length of time, and then he gave twelve grammes for fourteen days, then fifteen grammes for another fourteen days, again increasing the dose every eight days to twenty or twenty-four grammes, and in the case of one patient to as much as thirty and thirty-five grammes. Then the daily dose was reduced gradually to twenty-five, fifteen, and ten grammes. His observations were made in reference to four male and two female patients, all of advanced age and bad cases. They had been previously accustomed to the administration of bromine preparations. In all instances the use of bromipin was found to be unmistakably attended with beneficial results in cases of epilepsy. With small doses of four to eight grammes Schulze certainly obtained only temporary effects, with medium doses of ten to fifteen grammes there was marked improvement, and with larger doses very distinctly favorable results. Even in the case of patients who had long suffered daily from violent attacks, the use of bromipin had the effect of bringing about freedom from attack for intervals of as much as fourteen days. Meanwhile the mental condition of the patients was very much improved and the improvement maintained after reduction of the daily dose. The character of the attacks was also milder. Schulze infers from his very careful observations that bromipin really has the capacity of counteracting epileptic seizures, and

* Dr. F. Schulze, "Further observations on the action of Bromipin in Epilepsy."—*Gottingen*, 1899.

at the same time it has the effect of improving the general condition of patients who have suffered very considerably. Under treatment with bromipin the acne nodules and pustules resulting from previous use of alkaline bromides disappeared, the appetite was good, and the digestion undisturbed. The formerly fetid odor of the breath also disappeared.

Satisfactory results have also been obtained in Italy from the use of bromipin in the treatment of epilepsy. Scipio Losio employed it in one case with very marked success, and he especially mentions that the preparation is well tolerated, while the general condition of the patients taking it is sensibly improved.

Wulff bears similar testimony to the efficacy of bromipin in the treatment of epilepsy. In the case of one patient who was unable to take potassium or sodium bromides even in moderate doses, since both salts caused loss of appetite, depression, weariness with very great production of acne symptoms; even Erlenmeyer's bromide water in small doses had the same effects; but when bromipin was given in small doses an astonishing improvement was effected in the course of a few weeks. The seizures became less frequent and less violent, and at the time of the publication of Wulff's work the patient had already been free from an attack for a period of seven weeks. The bromine acne disappeared gradually and the general condition of the patient improved, especially the appetite. In the case of a child of eleven years with whom other treatment had been unsuccessful, Wulff also obtained very satisfactory results by the use of bromipin.

Dornbluth records similar experiences, and all these statements meet with confirmation from other sources. Reports issued from numerous hospitals agree in furnishing evidence that the frequency of the seizures is at least mitigated; they are less violent and pass off more quickly. The patients become more tranquil in every way, less irritable and more at ease. Moreover, it is generally agreed that the use of bromipin, as compared with the use of other bromine preparations, does not produce any disagreeable accessory effects. Under the influence of treatment with bromipin acne decreases, and in no instance has there been any manifestation of the symptoms of bromism. Numerous observers have, however mentioned the beneficial influence exercised upon the general condition of patients, under treatment with bromipin, with increase of body-weight and improved appearance. This latter result is, undoubtedly, due to the very ready digestibility of sesame oil, to which Professor von Noorden and Dr. Stuve have directed attention.

The circumstance that bromipin does not disturb the stomach or bowels, even when taken for long periods, is, no doubt, explicable by the very ready assimilation of the brominized fat by the

stomach. The quantity of alkaline bromide that may be formed, in consequence of reaction with the intestinal juice, is so minute that any disturbance of the bowels by so-called "salt-action" appears to be out of the question. That circumstance is the more important in connection with the therapeutic use of bromipin, because the treatment in such cases as are now referred to, frequently has to be continued for twelve months. The absence of bromine acne may be due to various causes. It may be that, as a result of the very gradual and progressive elimination of bromine from the brominized fat deposited in the body, a comparatively smaller quantity of bromine becomes therapeutically active at one time; or it may be that, in the absence of any disturbance of the stomach, the reflex irritation productive of acne pustules is not produced.

URIC-ACID DIATHESIS—REPORT OF A SUCCESSFUL CASE.

(Abstract.)

BY WM. H. INGRAM, M.D., PH. GR., NEW YORK.

Mrs. J. G., aged 33, married, one child. First came under my care when the child was six years of age.

Family History.—Negative.

Previous History.—Healthy as a girl. Menstruation normal. For some months previous to marriage she suffered from so-called indigestion and developed a tendency to melancholia. Pregnancy normal except for mental depression, which, however, was not sufficiently marked to warrant interference with pregnancy. Delivery normal, child healthy. Mental depression and indigestion persisted after delivery, each growing more marked. Cystitis developed a few months after birth of child, urination being accompanied by violent pains. Became very hysterical, the attacks becoming more and more frequent. Three years before she came under my notice she was operated upon for gall-stones, several small stones being removed. This was followed by some relief as to the violent character of the pain experienced, but the cystitis and mental nervous symptoms persisted.

Present History.—When patient came under my care she was so hysterical and the melancholia so marked that her family feared insanity was imminent. The violent attacks of gall-stone colic were again a pronounced symptom, and at times urination was so painful that catheterization had to be resorted to for days at a time. A small stone passed was found to contain uric acid. I immediately ordered restricted diet, exercise and quantities of Buffalo Lithia Water. I soon found that I could not control the

diet to any appreciable extent. Being in her own home she had access to the table and pantry, and I found that she gratified to the fullest her almost voracious appetite; nor could I get her to take more exercise than the average woman takes. Medicines seemed to have little effect, so I fell back upon the solvent and eliminant plan, insisting that she drink abundant quantities of this water. For some strange reason this idea was the only one that seemed to impress her, and she religiously consulted, at frequent intervals, the bottle of water which she had always at hand. In a short time I noticed an abatement of all the distressing symptoms, which fact stimulated her ambition to drink more and more of this water. She gradually increased the amount to two quarts per day, and with this simple treatment improved gradually until at the end of about three weeks she was entirely free from cystitis, had no more attacks of gall-stone colic, the hysteria disappeared, and she is to-day as happy and cheerful as the average woman.—*Exdlunge*.

THE TREATMENT OF PAINS IN LOCOMOTOR ATAXIA.

BY E. C. SCHOLER, M.D., CHICAGO, ILL.

ALTHOUGH considerable progress has been made in recent years in the study of the etiology and pathology of locomotor ataxia, the treatment is still far from satisfactory. In spite of the predominance of the disease in persons with a syphilitic history the results of antisyphilitic medication have not been encouraging in the majority of cases. Our treatment in the main continues to be symptomatic, and the symptom for which the patient most urgently demands relief is the intense pain, which is present in nine-tenths of the cases. These pains vary in their duration, sometimes lasting only a few seconds or minutes, or, again, continue for hours or even days. Before the introduction of the newer synthetic remedies we were restricted to morphine in order to alleviate the suffering of these patients, and even at the present time we cannot have too many agents for this purpose, since the effect of any one of them is rapidly exhausted, requiring resort to others. Most authorities recommend the administration of such analgesics as phenacetin, antipyrine and acetanilid, before using hypodermic injections of morphine. I have tried most of these remedies, often changing from one to the other, but not with much benefit. The salicylate of sodium in large doses, 20 to 30 grains, has given fairly good results in most cases, but its drawback has been that the patients were unable to tolerate it on

account of the severe gastric disturbances and cardiac depression following its use in these doses. This led me to try acetyl-salicylic acid, or aspirin, which I have found to act magically in 15 grain doses, promptly relieving the pains.

It has been my custom to administer aspirin in 15 grain doses every three hours until the pain was completely allayed, and then two doses of 15 grains each daily, morning and night, seemed to answer every purpose in keeping the patient in a state of comfort. I found that by using this drug I was able to control the jumping and jerking of the limbs which often caused annoyance late in the afternoon or evening, and since resorting to it I have been able to avoid or postpone the use of narcotics. I have been very careful to note whether aspirin produced any unfavorable symptoms such as cardiac depression, weakness, or collapse, and have yet to find my first case in which the drug was not well tolerated.

Perhaps the following cases may prove of interest in view of the fact that as far as I know the drug has not been employed, at least to any extent, in the treatment of this disease.

CASE I.—Mrs. M. S., aged 38 years, had sustained a severe injury of the spine in the dorso-lumbar region. After a time symptoms of locomotor ataxia developed. The patient complained of darting pains, at times lasting only a few moments, and then again for hours. At the time I was called she had been suffering severely for two weeks. As she had previously taken the customary analgesics I prescribed aspirin in 15 grain doses every three hours until she was completely free from pain, and then continued its administration in the same dose three times daily for the following two weeks. After that time an occasional dose when required afforded prompt relief and has kept the patient in a comfortable condition.

CASE II.—J. J. D., aged 38 years, had been a railroad engineer for thirteen years. During his last year of service he began to notice quite an unsteadiness in his gait, and later there developed an inco-ordination of his hand, so that he was hardly able to write and had great difficulty in buttoning his clothes. Soon after intense, sharp pains occurred in his limbs, accompanied by burning and tingling sensations, especially in the feet. For the relief of his suffering the patient was placed on 15 grain doses of aspirin every four hours, with the abatement of the pains after several days. An occasional dose of the drug is given whenever the pains become severe, and always with prompt relief.

The next case was one of injury of the spinal cord, presenting many of the features of locomotor ataxia.

CASE III.—Miss M. M., aged 18 years, several years ago while leaping from the third storey of a burning building fell upon her back. After the accident she was confined to bed for

many months, and at the end of five months motor phenomena became prominent. These consisted in a complete loss of co-ordination, and she also experienced intense, sharp pains, which at times became almost unbearable. Analgesics of various nature were tried, but without much relief. Under the use of aspirin, however, in 10 grain doses every three hours, the pains subsided in a very short time.

These cases are only cited to show that aspirin, although chiefly employed in rheumatic conditions, has also analgesic powers of marked character, and will often afford relief in neuralgic conditions in which other remedies have proved ineffective.

"MANNA" FROM HARVARD.

"Out of the eater came forth meat, and out of the strong man came forth sweetness."

DR. FREDERICK C. SHATTUCK is Professor of Clinical Medicine in Harvard University, and his address on the value of drugs in Therapeutics is notable in several respects. It is notable, first, for its healthy anti-mililistic appreciation of drugs in the treatment of disease. While we believe that Professor Shattuck puts rather too narrow limitations on the value of drugs, still, coming from a Harvard professor, we must be satisfied with small favors. The address is notable, in the second instance, for its having been delivered before a homeopathic body—the Boston Homeopathic Medical Society—thus offering us further proof that the chasm between the various medical "schools" is being bridged over, the bands of union becoming closer and more numerous. And, thirdly, and more important, the address is notable for teaching just exactly what we have been teaching these many years. Let us hear what Dr. Shattuck says. "It seems to me," he says, "that the leading therapeutic principles can be stated somewhat as follows:

"First, Do no harm. This principle seems to be well met by the homeopathic who uses the infinitesimal dose. He does not harm, save in so far as he may miss doing good. And it is still better met by our teaching—to start with small—not infinitesimal—doses of the best procurable drug and give it until results are *seen*.

"Second, Try to see as clearly as possible just why you give a drug, your purpose in giving it, whether as a specific, curative, palliative, or as a placebo."

Exactly what we have been teaching for years—give each drug only a definite indication.

"Third, As far as you can, give a drug uncombined. This

is a general rule subject to many exceptions. Rules, however, are made to break. They are our servants, though we too often allow them to be our masters. But in breaking rules we must use our brains, an exercise which most of us avoid as far as we can."

Another therapeutic truth which we have been teaching for many years, and which we could not express in a better manner if we tried. We have always taught and asked the profession to administer drugs singly whenever possible; but not faddists, not being wedded to one idea, we recognized that there are instances in which a combination of drugs acts better than any one single drug can, and in such cases we advocated a combination of drugs.

We know that one drug may act synergistically with another, or it can modify its action, diminish its undesirable by-effects render it milder in one respect and stronger in another—in all such cases we never hesitated to advise a combination of drugs.

But in this paragraph (three) Dr. Shattuck really says more than he perhaps meant to say. "As far as you can, give a drug uncombined." Why does he say that? Because he wants a clear-cut action. And this is a direct plea for active principle therapy. For opium is not an uncombined drug; to administer opium with its twenty-odd alkaloids is almost as irrational as it is to combine twenty isolated alkaloids and administer them in one dose. Jaborandi or pilocarpus with its antagonistic alkaloids is not an uncombined drug. And when we want clear-cut, positive, definite action we must administer the active principles.

"Fourth (and last). In using an efficient drug, be as sure as you can of a good preparation, and then give it until something happens—either the desired effect, or evidence appears that the limit of toleration has been reached, what is called the physiological, but what I should prefer to call the toxic, effect. Disregard of this law is, I believe, responsible for many therapeutic failures."

This sounds very much as if it had been taken from some issue of the *American Journal of Clinical Medicine*. Small doses frequently repeated until effect—doesn't this sound familiar to you?

We will conclude with the closing paragraph from Dr. Shattuck's address, which might be well heeded by some of our ultra-scientific physicians: "Scientific medicine," says he, "is open to the danger of going to the extreme of therapeutic nihilism, of disregarding the individual, of forgetting that while our knowledge is imperfect, and the big thing is to find out the true nature and cause of disease, the present-day sufferer demands, and has a right to demand, all the aid that our knowledge, imperfect as it is, permits.

In other words, this means that while we are hunting about for the ultimate cause of disease, we must not permit our present

the milk is kept in a cool place and, no matter how hot the weather may be, the milk can be kept in the present condition. It is sent to Bremen without ice during the summer, stays in good condition, and pure after crossing the ocean and being sold. He gives illustrations of a contrivance which he uses for mixing of the milk in a pail while avoiding drawing the cream from the surface and that at the very bottom of the pail, where germs congregate most. If the milk is to be sent a great distance during hot weather, it is frozen in a freezer. Quite fresh milk does not suffer from freezing, but milk that is a little old coagles as it melts.

ABSTRACTS.

Pure Milk Supply. W. Hempe (*Maschinen- und technischer Verein*) describes the conditions in a model dairy near Dronow, in which milk is obtained under such aseptic conditions that it can be sent to Bremen without ice during the summer, stays in good condition, and pure after crossing the ocean and being sold. He gives illustrations of a contrivance which he uses for mixing of the milk in a pail while avoiding drawing the cream from the surface and that at the very bottom of the pail, where germs congregate most. If the milk is to be sent a great distance during hot weather, it is frozen in a freezer. Quite fresh milk does not suffer from freezing, but milk that is a little old coagles as it melts.

Cirrhosis of the Pancreas in Diabetes. G. Herxheimer's (*Archiv für die Gesamte Medizin*, Berlin) communication fills 113 pages and is accompanied by several colored plates. He has had opportunity to examine the pancreas in 36 cases of diabetes, and his conclusions are rather against the "islands of Langerhans theory." He is inclined to accept changes in the parenchyma of the pancreas as the cause of diabetes. Recent research by Karakasheff and Reimann has converted them also to this opinion. In 5 cases described in detail, the alterations in the parenchyma of the pancreas were very pronounced. They were accompanied also by the changes in regeneration characteristic of cirrhosis of the pancreas. His indices that not only anatomically, but also physiologically, the essential injury inducing the diabetes must be sought in the parenchyma rather than elsewhere in the pancreas.

Determination of Size of Heart by Roentgen Examination.

W. Gierman (*Zeitschrift für klinische Medizin*, Berlin) recapitulates the sources of error in Roentgen examination of the heart. He emphasizes the actual largest diameter of the heart with precision, as it shows only the largest diameter presented at right angles to the direction of the rays. Examination from the front, from the side and from above has each its advantages and its drawbacks. Orthodiagraphy is so unreliable that it is the rarest exception when two views taken of the same person under the same conditions exactly coincide. In conclusion, he remarks that it is really of comparatively little importance to determine the

true size of the heart. At the most, the increase in the size of the heart determined in a given individual, if the possibility of blunders can be excluded, will allow certain conclusions in regard to diagnosis and prognosis. In every case, however, greater stress should be laid on the changes in the shape of the heart as a whole and of its various parts, and on functional tests.

Genesis of Thermal Waters.—A. Gautier (*Bulletin de l'Académie de Médecine*, Paris) describes his connection of the dehydration of the rocks under the influence of the heat in the centre of the earth and of chemical affinities, and the escape to the surface of the water thus formed by volcanic action.

Mercury Lamp for Treatment of Skin and Mucous Membranes.—Kromayer (*Deutsche medizinische Wochenschrift*, Berlin and Leipsic) gives an illustrated description of a mercury and water lamp for phototherapy for which he claims many advantages. Among them is the fact that the therapeutic effect is obtained in one-half the time required for the iron lamp and in from one-third to one-fifth of the time of the Finsen lamp. The area that can be treated is much larger, generally 7 by 7 cm. at a time. The lamp can be arranged so as to throw the light on mucosæ of nose, throat, rectum, uterus, bladder, etc. Its application is convenient for physician, patient and attendant, while the expense is much less than that of the ordinary lamps, as only four ampères are required. He has used it with good results in a number of cutaneous affections, including eczema, acne, lupus, obstinate syphilitic lesions and in gonorrhœa.

Determination of Albumin in Blood.—Deyche and Ibrahim (*Zeitschrift f. klinische Medizin*, Berlin) have modified the Denigès cyano-argentimetric method of determining the albumin in the urine and applied it to the blood. The results have been so constant and the method permits of such precision that they recommend it in high terms after several years' experience and hundreds of tests on 56 patients. The principle of the test is that the albuminoids in the fluid are found and precipitated by a given amount of a potassium-mercury-iodid solution in the presence of acetic acid. They are precipitated in the form of mercury albuminate. In the filtrate, free from albumin, the loss of mercury from the formation of the mercury albuminate is determined in the albumin-free filtrate by the Denigès silver-cyanid methods. It was found that the proportion of albumin in the blood was the same as the proportion of hemoglobin. This allows the exact amount of hemoglobin in the blood to be expressed in absolute figures instead of merely in percentages. The details of the simple technic are given in full, with summaries of the 56 cases tested.

School Hygiene.

MENTAL OVERWORK IN SCHOOLS.*

BY EDWARD RYAN, M.D., KINGSTON, ONT.

Associate Professor of Clinical Medicine and Clinical Surgery, Queen's University.

THE question of mental overwork is one that might well occupy the time of a meeting of this character. For mental overwork is a great mistake. "It is a mistake in so far as the mere acquirement of knowledge is concerned. For the mind, like the body, cannot assimilate beyond a certain rate. It is a mistake, too, because it makes study distasteful. It is a mistake also, as it assumes the acquisition of knowledge is everything and forgets that a much more important thing is the organization of knowledge." It weakens the mind, it weakens the body, and in the end defeats the very object in view. It has been the source of numberless physical and mental wrecks. On the growth and proper development of girls and young women its effects are especially pernicious. Spencer: "In a child or youth the demands on vital energy are various and urgent. The waste consequent on the day's bodily exercise has to be met. The wear of brain entailed by the day's study has to be made good. Additional growth of brain and body has to be provided for."

The problem that should be kept constantly before our minds should be how to train our youth to produce a nation of the best men and the best women. Culture and refinement, the mental and moral elevation of a people, a high standard of the life intellectual, these qualities are the outcome of a generous and well-balanced system of education. To reach the highest standard of mental life we must also attain a high standard of physical life.

In the golden age of Greece, unsurpassed in all departments of mental activity, the physical well-being of her people laid the foundation of Athenian culture. The care and cultivation of the physical man preceded the mental activities. In the ideal republic those found wanting in bodily perfection were eliminated from the foundations and from the functions of the State.

Social conditions are changing in this country. In the early pioneer days people lived an outdoor life. The stern

*An address delivered at the Annual Meeting of the School Hygiene Department of the Ontario Educational Association, held in the Medical Building of the University of Toronto, April 18, 1906.

ring of necessity permitted no self-indulgence. The earth, the sky, the forest and the streams were man's daily companions. From these great masters he learned his lessons. Mental overwork, in the form it is taking to-day, was neither a question nor an issue. The youth from early life was obliged to take part in the cultivation of the soil.

Thus the time spent in the open air increased the physical capacity of the student. It is worthy of remark also that until quite recent years male teachers were in the majority. Open air exercise was thus more encouraged, and the strain of study lessened, at least in a measure, by games and sports, in which the teacher led the way. In the primary schools at least female teachers are now almost entirely employed, and the stimulus to open air exercise is thus withdrawn.

Social life has also changed materially. It has become far more complex, more exacting, and, therefore, more exhausting, demanding a greater expenditure of nerve force even in early life. The physical and mental resisting power of the nation is being gradually lowered. Now, let us consider what we wish to grow on this unproductive soil. Modern education is day by day becoming more diversified, more complex. The subjects of study are increased and multiplied. Technical studies form part of even a primary education. There is an ever-increasing demand on the time, on the physical and mental powers of the student. The hours of study are being lengthened. The natural competition among children, stimulated by the ambition of parents, leads to study pressure by day and by night. If we take the time occupied in going to and from school, the hours actually spent in the school-room, the hours spent in home work, more time is consumed than the labor unions permit for manual work. The continual strain of examination is a source of nerve pressure and exhaustion. It is not the actual time spent in preparation for examinations that brings the worst result. It is continual anxiety, the fear of failure, the supposed loss of caste among comrades and often, indeed, the dread of parental displeasure, that causes the strain and the breakdown of many students, young and old. Worry, Osler wisely remarks, causes more trouble than work. "It is very fortunate there are idle people in the world. They save the race from too rapid degeneration."

The pernicious system of home work has much to do with nervous pressure. This work is pursued often under the greatest difficulties. Exhausted mentally and physically, the student has to take up his burden again under the worst possible conditions. With poor light, lowering hygienic surroundings, constant interruptions, and a system utterly fagged, the student undertakes another term of labor. I will say nothing of the vitiating practice of

working in sleeping apartments, and then going to bed without a change of air. Richardson's "Health of Nations" quotes Sir Edwin Chadwick's London experiment: "He divided the boys of a school into two. One series worked half a day, the other all day. After a time they were both set to work together. The half-time school often beat the full-time school at school work and always at games." Nor is any account whatever paid to individual capacity or inclination. No matter how agreeable to the student certain lines of thought may be, he is not permitted to indulge them. No matter how obnoxious certain subjects may be he has no peace till he masters them. How else could he pass his examinations?

What wonder is it that under these conditions we are fast becoming a nation of neurotics! What wonder is it that many an erstwhile and promising life lapses suddenly into a condition of useless inactivity and remains fallow for years, if not forever! What wonder is it that under this constant strain and pressure and wanton wasting, crippling and strangling of the forces of nature, we are producing nothing of supreme intellectual value! M. Simon: "There are students, but no scholars. There is instruction, but no education. They make bachelors, licentiates and doctors, but making a man is out of the question. What they do turn out is a ridiculous little mandarin, who has no muscle, cannot leap a gate, give his elbows play, shoot nor ride."

What is the remedy for those conditions? There must be a return to simpler and more natural methods. Physical and mental training and cultivation must go together hand in hand. More care, time and accommodation must be given to natural healthy sport and outdoor exercise and occupation. The teacher should have a watchful regard for the mental capacity of a student, and under no conditions should the margin of safety be approached. The hours of study should be lessened, or at all events controlled. Against the pernicious system of home work, as now conducted, I protest in the strongest terms. No work requiring intellectual strain should be undertaken at night. The solution of mathematical problems and work of like character should be utterly prohibited. Reading of such a character as will entertain and relieve the mind may well be prescribed. The incidents of history, tales of discovery and adventure for the young, and the standard authors judiciously selected for those more mature will in the end prove a greater source of mental strength and culture. The present system of conducting examinations should be withdrawn or widely modified. The dread of examinations and the mental conditions occasioned thereby are prolific of the greatest physical and mental evil. Neither the love of learning nor the desire for knowledge for its own sake begot the ex-

amination craze. It had its origin in a lower sphere. Teachers had to obtain situations, institutions must have students, and what better recommendations could either give than that so many successful students were "manufactured" by them. The system is commercializing teachers and institutions and lowering the standard of both. Far better would it be to permit the whole educational term of the student to speak for itself. To state that an educational life would be retarded without a "system of examinations" is both mischievous and illogical. I should like to be informed what great intellectual periods in the world's history have been generated through a "system of examinations."

Now, as a relief or as an antidote to mental overwork, stands the value of bodily exercise, games and sport. "For girls as well as boys the sportive activities to which the instincts impel are essential to bodily and mental welfare."

It is a fair statement to make that nowhere can be found better types of men than those produced by the great schools of England: Eton, Harrow, Rugby, Stonyhurst and others of like character. Yet in these schools all kinds of manly sports are encouraged, and on two or three days out of the week afternoon classes are suspended and the entire time given over to sports and games.

More space, more encouragement is required in our educational institutions for physical culture and physical perfection, without which over-pressure cannot be restrained, and intellectual life can make but little progress.

MEDICAL INSPECTION OF SCHOOLS IN MONTREAL.

THE City Council of Montreal in January, 1906, appointed seven physicians as medical inspectors of schools and gave an appropriation of \$3,000 for this purpose. Unavoidable delays occurred in beginning the work, from one reason and another, so that it was not till Oct. 3rd that the inspection was really begun. On this day, from statements published in the *Montreal Herald and Witness*, it would seem that the necessity for medical inspection of schools was amply vindicated. One inspector found some classes in basements, others in places where the air was filled with insanitary odors, others in rooms of insufficient air-space (in one case forty children are said to have been found in a room with air-space for fifteen). Another inspector reports that thirty-three pupils out of sixty-six in one class have suffered from measles on account of a single unrecognized case, one pupil with measles having been allowed to continue in attendance.

We understand that this state of things occurs not in the public schools, but in the numerous so-called private schools, especially in the east end of Montreal. We are further informed that the Montreal High School has had medical inspectors for years, and that this school has also a school nurse.

Montreal has thus the honor of being the first city in Canada to establish medical inspection of schools, and it is already evident that the course of the City Council was a wise one.

CHILDREN'S TEETH.

THE Birmingham City Dental Hospital has offered to undertake the inspection of the teeth of the scholars attending some of the public elementary schools of the city, and also to care for the teeth of such scholars, so far as may be necessary. This offer was gratefully accepted by the Elementary Education Sub-Committee, and has aroused great interest in other British cities and towns. It seems probable that this good example may be followed elsewhere.

SCHOOL NURSES.

THE Board of Education of Grand Rapids, Michigan, has arranged with the District Nursing Association to place four nurses in the public schools. For each nurse so employed the Board will pay the Association \$10.00 per week. The nurses will wear truant officers' badges, and are to work both in the schools and in the homes.

H. M'M.

Laryngology, Rhinology

IN CHARGE OF
PERRY G. GOLDSMITH, M.D.
TORONTO.

and Otology

ELECTROLYSIS IN EUSTACHIAN STENOSIS.

E. T. HOPKINS (*Archives of Otology*, Vol. 34, No. 6) at the otological section of the New York Academy of Medicine, introduced the subject of electrolysis in the treatment of chronic eustachian stenosis. Hopkins thinks the reason that the method has fallen somewhat into discredit in the opinion of some writers is due to errors in insufficient attention to the naso-pharyngeal current. He advises the use of graduated bougies up to No. 3 or No. 4 (French). No. 1 may be used at first, and after an interval of from two to four weeks the next size, and so on until No. 3 or 4 have been used. He does not advise irrigation following the passage of the instrument, fearing emphysema. He has found improvement in cases of tinnitus and deafness when he has used the larger bougies, and such was not the case when only the smaller ones were used.

Dr. Kenefick, in the discussion, was inclined to restrict its application to cases of long standing, when the stricture was of a more dry and less vascular character, and in a general way he considered that long-standing closure of the tube, tinnitus, a moderate degree of deafness, and extreme vertigo, were favorable cases for electric bougie in proper hands. Dr. Gruening thought cases of emphysema denoted a false passage. Dr. Phillips did not believe the electricity had any material effect. If he failed with whalebone he usually failed with the electric bougie. Dr. Simpson thought in organic strictures the electric bougie was the only method of securing relief. He thought the injection of a bland oil into the mouth of the tube in many cases obviated the necessity for using electricity. Drs. Harris and McKeown spoke favorably of its use in specially selected cases only. Dr. McAuliffe thought the true explanation of the electrical action was to be found in the action of the galvanic current on the muscles.

P. G. G.

LUDWIG'S ANGINA.

CHAS. C. CUTHBERT (*Glasgow Medical Journal*, Sept., 1906) cites a very interesting case of this not very uncommon disease. The condition is the result of a pyogenic injection of extraordinary virulence, occurring in the submaxillary region and generally commencing in the cellular tissue, between the mylohyoid and genio-hyoglossus muscles.

Of the complications which may occur, pneumonia, septicæmia and pyæmia are most to be dreaded. Dysuria frequently causes great distress and is due in some cases to edema of the glottis, in others to direct pressure on the trachea or vagus. Pressure on the jugular vein gives rise to symptoms of cerebral congestion, and in one case disturbance of vision and prominence and tension of the eye-ball, with inability to completely close the eye-lids, was explained by alternation in tension of the jugular vein. Ballance has noticed thrombosis of the jugular vein. Abscess of the anterior mediastinum is not an uncommon complication. According to Ludwig the disease was always fatal, but by present-day methods of handling injections a much better prognosis can be given. Free incisions into the tissues of the neck. Incisions in the floor of the mouth are not advised, owing to the difficulty of maintaining drainage. If there be mechanical interference with breathing, Cheyne and Burghard advise intubation. This may be impossible owing to the patient being unable to open his mouth, while on the other hand tracheotomy is almost always followed by infection of the wound. If the condition be due to streptococcus injection, the free use of antistreptococcus serum is indicated. Suitable general systemic tonics must be freely given. The notes of the case are given as follows:

A. S., traveller, aged 49, was admitted to the Western Infirmary on 10th June, 1905. Previous to this illness he had always enjoyed good health, and he was very temperate in his habits. On 3rd June he complained of slight "sore throat," with pain in the right ear, but there was no discharge from the ear. Two days later a swelling appeared externally just behind the angle of the lower jaw on the right side, and, on account of the rapid increase in this swelling, he was admitted to hospital on 10th June.

When admitted he appeared to be very ill. The chin was tilted upwards and the head backwards by the swelling, which was very marked, and extended below the chin from the angle of the jaw on one side to the corresponding point on the other side, and downwards to below the level of the cricoid cartilage. The

swelling was hard and brawny, except at a point just to the left of the middle line, where a sensation of deep fluctuation was obtained. The face was swollen with edema, and the mouth could only be opened about half an inch. A hard swelling could be made out in the floor of the mouth and pushing the tongue upwards. Swallowing of even liquid food was accomplished with difficulty, and there was a considerable degree of dyspnea, from which the patient seemed to get some relief by resting in bed on his hands and knees. Nothing abnormal was made out in the lungs. The temperature was 100 deg., and the pulse was 102 per minute, and slightly intermittent. As there was a story of his having coughed up a cast of the trachea a few days previously, a swab was taken from the throat and examined for bacillus diphtheriæ, but with a negative result.

In order to make the necessary free incisions in the neck, chloroform was administered. The patient struggled during the administration, and then stopped breathing. As artificial respiration was of no avail, tracheotomy was performed as low down in the neck as possible. The wound was very deep on account of the edema and infiltration of the parts, and, on introducing the tube into the trachea, at least half an ounce of fetid pus was coughed up, and finally respiration was re-established.

Free incisions were made into the brawny area, and a little pus was found, but all the cellular tissue surrounding the muscles and the salivary glands was in a black, sloughing condition. For some days the patient continued to cough up pus through the tracheotomy tube, which was removed on 16th June. A large number of sloughs were discharged from all the wounds in the neck, including the tracheotomy wound. The patient's general condition improved, and he was able to breathe in comfort while lying on his back, and to swallow without difficulty. A parotid abscess, which developed on the left side, was opened, and another incision was made low down in the neck for drainage purposes. On 19th June there was severe hemorrhage from all the wounds in the neck owing to ulceration into the transverse cervical vein. In order to control this, the large cavity in the neck was tightly packed with gauze, as a result of which within twenty-four hours the patient developed a severe attack of erysipelas of the face and scalp, but under suitable treatment this disappeared in a few days. The wounds in the neck healed rapidly by granulation, and he was dismissed cured on 11th July.

The points to which I would draw attention are:

1. The inadvisability of giving a general anesthetic to a patient suffering from Ludwig's angina, as, owing to the patient's inability to open the mouth, it is impossible to say whether or not an abscess is pointing into the pharynx.

2. It was demonstrated at the time of operation and for days afterwards, that a large quantity of pus had escaped into the trachea, and yet, although the chest was examined daily, no signs of pneumonia could be made out: in fact, there was hardly a r le to be heard in his chest from the beginning to the end of his illness.

3. Unfortunately in this case no examination was made of the pus, either by culture or otherwise, to demonstrate the nature of the micro-organism involved. In the literature of the subject it has always been taken for granted that it has been a streptococcus invasion, and this is probably so far correct. It was noted, however, by Ludwig, and occasionally since his time, that in a few of the cases there was a distinct formation of gas in the tissues. This suggests the possibility that, in at least some of these cases, we have to deal with the bacillus of malignant edema, either alone or in combination with a streptococcus.

Hunyadi Janos Natural Laxative Water.—The medical profession in general recognize the value of Hunyadi Janos natural laxative water as a remedy for constipation and diseased or impeded conditions of the intestines and rectum, and largely recommend its uses in cases of this kind. Its prompt action, the small dose (half a glass on rising), the fact that it produces no griping or unpleasant after-effects, and its tonic action upon the stomach make it an especially safe and desirable remedy. We quote from the *Progr s M dical*, of Paris, France, as follows: "Nothing can be justly compared with the nutritive and regenerative effects brought about by Hunyadi Janos water, which is eminently absorbable, and the curative effects whereof appear to penetrate even the finest capillaries of the interstitial circulation, causing them to disgorge their morbid elements and promoting molecular interchanges tending to the purification of the tissues and to the normal renovation of their anatomical constituents."

The Canadian Journal of Medicine and Surgery

J. J. CASSIDY, M.D.,

EDITOR.

43 BLOOR STREET EAST, TORONTO.

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W. A. YOUNG, M.D., L.R.C.P. (Lond.),

MANAGING EDITOR

145 COLLEGE STREET, TORONTO.

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Internatology—D. KING SMITH, M.B., Tor., Toronto.

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VOL. XX.

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NO. 6.

Editorials.

THE RESULTS OF EXAMINING BOLOGNA SAUSAGES AND POTTED MEATS.

A PERUSAL of Bulletin 125, issued by the Department of Inland Revenue, Ottawa, Canada, shows some interesting details about the condition of Bologna sausages in Canada. The samples examined were collected in July, 1906. Information is given in the Bulletin of the nature of each sample, its number, the name and address of the vendor, the cost and weight of each sample, the

name and address of manufacturer or furnisher, the inspector's report, the condition of the samples, the preservatives present, and artificial substances found, if any were used.

It may be premised that several samples were already decomposed, and, therefore, were not analysed. The four samples of Bologna sausage manufactured in the district of New Brunswick were good; no preservatives were found; artificial coloring substance was present in only one of the samples.

Four samples of sausages made in the district of Quebec proved to be mouldy; neither preservatives nor coloring substances were found. By the term mouldy we would understand that these sausages contained mould or fungi. The term is applied to all vegetable organisms of a low order of development, especially the micro-organisms.

From the district of Montreal two samples of Brunswick sausages proved good; one of them contained boric acid and artificial coloring substance, the other contained some coloring substance but no boric acid. From the same district six samples of Bologna sausages were examined; five were pronounced good, one mouldy. One of these samples contained boric acid, three contained coloring substances.

Two samples of Bologna sausage from the district of Kingston were pronounced mouldy; neither preservatives nor coloring matter had been used.

One sample of Bologna sausage from the district of St. Hyacinthe was found good; no preservatives present; coloring substances were found.

Two samples of brawn from the district of Ottawa were found good; one sample of Bologna (pork) good; one of Bologna (beef) good; one of Bologna good. Boric acid was found in the beef and pork samples of Bologna, none in the others; coloring substances were found in two samples of Bologna sausages.

Two samples of beef Bologna sausage from the district of Toronto were found mouldy; neither preservatives nor coloring matters were found.

Three samples of Bologna sausages from the district of London were found mouldy; neither preservatives nor artificial coloring substances were found.

Three samples of Bologna sausages from the district of British

Columbia were examined; two were found mouldy, one good. Sulphurous acid was present in the good sample; artificial coloring substances were found in two samples.

Altogether 32 samples were examined: 5 contained preservatives, 11 contained dyes. It will thus be seen that of the number of samples of Bologna sausages which escaped decomposition, and the examination of which was possible, about one-sixth contained preservatives, and about one-third were artificially colored.

To recapitulate: The four samples of Bologna sausages from New Brunswick proved good; the four from the district of Quebec proved mouldy; of the eight samples from the district of Montreal, seven were good, one mouldy; of the two samples from Kingston, both were mouldy; one sample from St. Hyacinthe was good; of the five samples from Ottawa, all were pronounced good; the two samples from Toronto were pronounced mouldy; the three samples from the district of London were mouldy; of the three samples from the district of British Columbia, two were found mouldy, one good.

Our readers will observe that of the 32 samples of Bologna sausages which were analysed, 44 per cent. were mouldy. In reference to mouldiness there is this to be remarked, that the growth of moulds occurs only where decay is going on, and there is nothing, at all events, to show that any other than organic compounds in a state of decomposition can be made use of by moulds.

In reference to the 322 samples of potted meats reported on in Bulletin 123, the examining chemists thought that some of the samples might contain cereal products. These potted meats were submitted to microscopic examination and to the test for foreign coloring substances. All, with one exception, were found free from coloring substance. In 90 samples of potted meats, however, the presence of starch, and consequently of meal from cereals of some description, was detected.

In 53 of the 90 samples found to contain starch, the terms "chicken loaf," "ham loaf," "veal loaf," "Melrose paté," "chicken tamale," appearing on the respective labels, indicated that meal or flour had been used in preparing them, and could not be considered an adulteration. In the 37 other samples of "potted beef," "ham and tongue," "sausage meat," etc., etc.,

no words indicating that meal had been added to them appear on the labels, so that its presence in these samples may be rightly considered as an adulteration.

Samples of the cereal products used in the packing houses have been collected under the following designations: "Bull Meal Flour," "Bologna Sausage Filler," "Bologna Filler Flour," "Potato Flour." Examined under the microscope, two of these samples were seen to consist of maize flour; one consisted mainly of the same product and, besides, some undetermined tissues; two consisted almost exclusively of potato starch.

J. J. C.

FEES PAID TO PHYSICIANS FOR LIFE INSURANCE EXAMINATIONS.

AT page 426 we publish a letter from Dr. A. Laurendeau, St. Gabriel de Brandon, P.Q., who speaks authoritatively respecting the fees paid to medical examiners for life insurance examinations in Quebec. The fee paid by the mutual benefit companies, viz. \$2.00, is small, the excuse offered being that associations of that kind are poor, and the amount insured by them inconsiderable. As far as the actual work done by the examiner for a mutual benefit company is concerned—examination of the applicant and preparation of the report—it takes as much time and is just as onerous as an examination for which \$3 is paid by a regular insurance company. However, as the poor are always with us, the remuneration for that kind of work will always be inadequate.

Formerly the regular life insurance companies used to pay their medical examiners \$5 for the examination of an applicant for a policy of \$1,000 and upwards. Now the companies discriminate, paying a fee graded according to the amount of the policy. Thus, according to the Imperial Life Assurance Co., of Canada, for policies ranging up to and including \$2,000, a fee of \$3 is paid; for policies ranging from \$2,000 to, but not including, \$5,000, \$4 is paid; for policies of \$5,000, and over that sum, \$5 is paid.

As the greater number of life policies issued in Canada are for sums of \$1,000 to \$2,000, the most commonly paid medical

examiner's fee is \$3. Dr. Laurendeau wishes, in company with many of the physicians of Quebec, to see a \$5 fee paid for every examination made for a regular life insurance company. It is quite likely that a considerable number of physicians in Ontario sympathize with this view.

Some of the points for and against it may be presented as follows: A physician examining an applicant for life insurance is an expert, doing the work of the company, and should be well paid. His work must be done carefully and exactly, and, besides, in his report there is a directness of statement not usually demanded in ordinary professional work. The examiner is acting as adviser for a company which has a right to be guarded against unsafe risks. But he is only occasionally employed by the company; his principal professional dealings are with the public of the locality where he resides. The agent of the company is one of these. If an examiner is rather scrupulous in his examinations he is likely to lose favor with the agent, who may take the greater part of the risks to some other examiner. The examiner may also be interested in an applicant, who is perhaps one of his public. If an unfavorable report is sent in, the rejected applicant generally attaches the blame to the local examiner, and perhaps holds a grudge against him for his rejection. Then the mere writing of the examiner's report takes from fifteen to twenty-five minutes, and from fifteen to twenty minutes more must be devoted to the physical examination of the applicant and the urinary analysis. Besides, even if the examination of the applicant and the filling in of the report can be done in forty minutes, a conscientious examiner may have occasion to re-examine an applicant for some abnormality of the pulse or other condition noted during his first examination. Again, an appointment made by the applicant may not be kept, thus entailing loss of time to the examiner.

On the other hand, a life insurance examination is congenial work. It is frequently done at the doctor's office; requires no appreciable expenditure of material on his part; simply calls for an expenditure of his time and the employment of ordinary professional knowledge. A doctor practising in a village who gets from 25 cents to \$2 for an office consultation, 50 cents to \$1 for a visit and mileage 25 to 75 cents per mile, one way, is amply

remunerated by a \$3 fee for an examination, which should not require much over forty minutes of his time. Then, again, there is another important reason why he should hesitate before refusing the \$3 fee. If he refuses to accept it, a confrere, as competent as he, may be willing to take it.

In *The Medical Council*, September, 1906, p. 397, we notice a letter from Dr. Dunlap, of Hill, Montana, who says that medical fees in that State are high. He gets \$2 for an office consultation; \$3 for a visit, mileage \$1 per mile one way; night rates double; obstetrical cases from \$25 up, according to the time spent and the complications, mileage extra, and no free extra visits. Naturally, Dr. Dunlap refuses to make any life insurance examinations for less than \$5. The ordinary fees for professional services in Quebec are not so high as those mentioned by Dr. Dunlap; in fact, we see in the "Tariff adopted by the Medico-Chirurgical Society of the District of Joliette," a copy of which has been kindly furnished by Dr. Laurendeau, that they are much lower. Until the arrival of the auspicious day when medical fees in Quebec and Ontario shall be commensurate with the value of the services rendered by highly educated professional men, \$2 for the examination of an applicant for a mutual benefit association policy, and \$3 for the examination of an applicant for a policy of \$1,000 to \$2,000 in a regular company, seem to be reasonable fees.

J. J. C.

ENTHUSIASM AS A CURE.

DID you ever see Gotham on "election" night, reader mine? It is a sight never to be effaced, a whole little world of men and women gone mad! Ills and ailments forgotten, the crowd, a human earthquake, tremor after tremor, with a noise sufficient to usher in the crack of doom. Watching the yelling, pushing mob, broomsticks in hand, knocking off hats, blowing horns with ear-splitting sounds, using "ticklers" right and left, tickling darkies and white women, patrician and plebeian alike, on chin and cheek, one gasped as the dread possibility of an epidemic of skin disease seemed the inevitable sequel. Yet in past years few results of an alarming nature ever have been noticeable after these outbursts of political enthusiasm. Our friends, the Chris-

tian scientists, might easily say, here again is an example of mind over matter, a whole community forgetting aches, pains and infirmities, and joining in one grand march up old Broadway, crushed almost to suffocation, and yet greeting the night with laughter and song. Crazy, we say, but cured momentarily, we cannot deny. And yet how comes it, we have just prescribed the rest cure for a decided case of ennui? Are we any further on in our science after all than the poor charwoman was in her philosophy when she declared she "was goin' to Heaven, just to do nothin' for ever and ever."

W. A. Y.

**"GOOD MORROW TO YOU.—HERE, THE STREET IS
NARROW."**

THE surgery door opened, and a man was shown in who approached the desk with the following monologue:

"I'm from Ireland.

"I'm a doctor.

"I want a locum tenens."

Upon informing the stranger that unfortunately he was in the wrong pew, that seldom did a Canadian doctor need a supply, and if so the applicant must have graduated in Canada and "passed the Council," the stranger answered, so he had heard, and he deemed it a hardship. That was a point where doctors differed, but courtesy and a lack of infinite time forbade further remarks. There seemed no reason for his staying, and so he drifted out again, perchance to interview other members of the Toronto profession.

Will the day of a clearer understanding never dawn in that land of fogs (the British Isles) across the sea in regard to medical registration in the colonies. Let the Old World doctors learn that they must be with us, ere they can be of us, a betrothal solemnized through the doors of our University, before the donning of the wedding garment and the new name, Canadian physicians, which we are proud to share, but only with those who may adorn it.

W. A. Y.

EDITORIAL NOTES.

A Special Sign of Arterio-Sclerosis.—Dr. Capiello (Naples) describes in an article published in *Nuova Rivista clinico-terapeutica*, 1906, Aprile, No. 4, p. 192, a special sign of arterio-sclerosis which he has noted, in twenty out of twenty-four cases of that disease. If you compress the radial artery, so as to stop the pulse, the patient feels, in the palm of his hand along the course of the palmar arch, a peculiar feeling, like a slight thrill or a pin prick or, to describe it more accurately, a feeling like that which is caused by a fly passing over the skin. This sign is found in every case of aortic insufficiency, and should be attributed to the greater speed and force of the blood current in the hand, which, travelling only through the ulnar artery, strikes strongly against the curved portion of the palmar arch.

Acute Benign Inflammatory Complications in the Broad Ligaments after Pathological Confinements.—Dr. Laignel-Lavastine, in *La Presse Médicale*, 19 Septembre, 1906, p. 604, gives an abstract of a thesis published by H. Guilbert, Paris, entitled, "Acute benign inflammatory complications of the broad ligaments, appearing after pathological confinements." The thesis is founded on seven cases observed by Condert, and the author of the thesis describes a clinical type of inflammation of the broad ligaments, which is essentially benign in its characters. It is a lymphatic infection starting from the womb, followed by a reaction in the adjoining cellular tissue, thus constituting an acute inflammatory edema of the tissues around the neck of the womb. The characteristic symptom of this disease is the rapid appearance of a tumor, variable in size, always perceptible in the vagina, generally inaccessible to abdominal palpation, closely adherent to one side of the womb, capable of passing over easily from one side of the womb to the other side of that organ, and without any tendency to suppuration.

The Treatment of the Vomiting of Pregnancy by Diet and Suggestion.—Cases of excessive vomiting in pregnant women are treated by Professor Fabre, of Lyon, by diet and suggestion. The diet consists of a bread soup made as follows: A certain quantity of water is placed in a saucepan over the fire, and bread, cut

into small pieces, put into it. Salt is added to the soup, which is allowed to simmer over the fire for about an hour, so as to become thick. A small lump of butter is added, and the soup is ready to be served. The patient is examined and put to bed, and the soup is offered to her, in about three hours' time, with the recommendation that it is the only remedy that can cure her, thus bringing into play the element, suggestion. Often the first bowl of soup is vomited, but a second one is given, and it frequently happens that it is retained. A bowl of this kind of soup is offered twice a day, always at the same hours, morning and evening. After swallowing the soup, the patient is required to rinse out the mouth with cold water. In the intervals between the two meals she is allowed a small bottle of lemonade or soda water. Under this regimen the vomitings become by degrees less frequent, and generally cease in three or four days. A slight increase in the patient's weight is then observed. All that remains for the patient to do is to resume her ordinary diet, in a tentative way, and in some cases she is able to do so pretty rapidly.

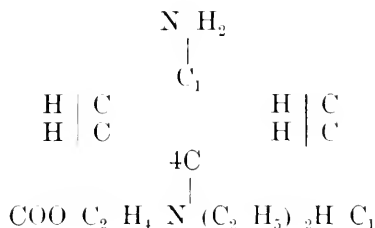
Causes of Obesity.—In a paper published in the *Bulletin Médical*, 1906, No. 25, pp. 287-293, and No. 27, pp. 311-316, Dr. P. Carnot considers the different pathogenic types of obesity. Obesity consists in an exaggeration of the fatty reserves of the organism. This exaggeration may be brought about, on the one part, by a hereditary or family predisposition, or, on the other hand, by a series of occasional causes. In about one-half of the cases the occasional cause is manifestly an over-rich diet, which is out of proportion to the expenditure of energy, thus causing a reservation of a considerable part of the nutritive excess (alimentary obesity). In other cases the automatic regulation of nutrition does not take place in a normal manner, as a result of the functional insufficiency of different glands which have an internal secretion. Among the glandular obesities, genital obesity, produced experimentally in animals, viz., bees, horses, fowls, etc., is observed clinically in castrated persons and among women, owing to many circumstances, viz., obesity of puberty, post-nuptial obesity, maternal obesity, obesity of the menopause, obesity of ovariectomized women, etc. Thyroid obesity is distinct from myxedema. Hertoghe saw a young bull in which ablation of the thyroid gland brought about an increase of weight amount-

ing to over forty pounds in a few months. Dr. Carnot had a patient who became obese after the growth of a goitre. Obesity caused by the pituitary body is not well understood. Gastro-intestinal obesity has been well studied by Leven. Hepatic and pancreatic obesities have not yet been demonstrated. In other cases a toxic or toxi-infectious cause capable of disturbing the general nutrition of the organism may be responsible for obesity. These causes may also explain mechanisms of a complex nature which, at least in certain cases, act through the intermediary of the glandular lesions already cited. Toxic obesities, due to arsenic, phosphorus, mercury, and particularly alcohol, and toxi-infectious obesities, due to different fevers, typhoid fever, tuberculosis, syphilis, etc., may be mentioned. The author has produced obesity experimentally in the guinea-pig by alcohol, arsenic, lead, phosphorus, diphtheritic toxin, and the injection of tubercular bacilli of slight virulence. It should be remarked, and it is interesting to observe, that these different causes of obesity sometimes produce emaciation, by variations in the doses and the conditions. In fact, it is a general law of physiology that the same agent, according to the dose in which it is given, may first provoke a functional excitation of nutrition, to be followed by a failure of nutrition. With respect to nutrition, the same toxic substance may, if given in small doses, cause an increase of weight and, if given in larger doses, loss of weight, probably by acting in an inverse way on the regulating organs of nutrition. Looked at from this standpoint, obesity and emaciation may be considered to be morbid syndromes indicating an excess or a defect of nutrition, the one condition being related to the other and derived from the same cause.

Cerebral Lesions of the Insane — Dr. L. Marchand, of Bois, in a paper published in *Révue de Psychiatrie*, Avril, 1906, No. 4, pp. 133-148, concludes that the principal diseases of the brain met with in the insane are chronic meningitis (meningo-corticalitis), encephalitis, cerebral vascularity, cerebral atheromasia, cerebral sclerosis and cerebral tumors. Cerebro-cellulitis, a new term intended to designate the sole primitive lesion of the psychic cell, should be included in this list. The same cerebral disease, appearing in individuals of the same age, may produce different mental syndromes. The same cerebral disease, appearing in

individuals of different ages, produces entirely different mental syndromes. Different cerebral diseases may produce identical mental syndromes. Mental syndromes, taken singly, do not enable the diagnostician to decide as to what cerebral disease they are symptomatic of. Examination of sensibility of motricity of the functions of language are indispensable. Dr. Marchand closes his paper with the following remarks: "Psychiatry is only a small branch of neurology. Its importance is due to the relations it bears to legal medicine and sociology."

Novocain.—The chemical composition and physiological properties of novocain are given in an article published in *Deutsch. Med. Wochenschrift*, 1905, No. 42, by Prof. Braun, a translation of which appears in the *Buffalo Medical Journal*, September, 1906. Novocain is the monochlorhydrate of p-amino-benzoyl-diethylamino-ethanol with the formula



The salt crystallizes from alcohol in needles which melt at 156 deg. C. It dissolves in water in the proportion of 1:1, and in cold alcohol as 1:30 (the description and pharmacology are given word for word as in Biberfeld's account). Prof. Braun gives details of tests made with different solutions of novocain, ranging from 1 to 10 per cent. He found that novocain was a local anesthetic with a strong, yet, in comparison with some others, a transitory action like that of tropacocain. In order to obtain results comparable with those got from cocain, it would be necessary to use concentrated solutions and large doses in proportion to the slight toxicity of novocain. However, the necessity for this is readily and successfully overcome by the addition of suprarenin to the novocain solutions. For instance, taking a 0.1 per cent. isotonic novocain solution, to 100 c.cm. add 5 drops 1:1000 suprarenin solution and inject into the skin of the forearm. Cutaneous wheals appear on the forearm and there is

marked anaemia of the injected tissues. The analgesia lasts over an hour: no reaction of any kind. Half per cent. novocain solution, with addition of a drop of suprarenin solution, 1:1000 to each c.c.m.: one c.c.m. injected beneath the skin of the first phalanx of the fourth finger. In 10 minutes finger anesthetic and anemic. Sensibility began to return in 65 minutes. Another hour elapsed before complete return of sensibility. No after pain. Professor Braunn considers that the superiority of novocain-suprarenin solutions to cocain-suprarenin solutions has been confirmed by clinical experience, at least for tissue injections. No toxic collateral effects or local irritation have been noted from novocain. Professor Braun has used novocain in 150 operations in which the cases were suitable for tissue injections. Among these are represented the anesthetization of the entire external nose (30 c.c.m., 5 per cent. solution, without suprarenin), the extirpation of a cancer of the scalp the size of the palm of the hand, including repair of the defect by skin transplantation from the arm, uranoplasty, staphylorrhaphy, enterostomy, laparotomy for tuberculous peritonitis, operation for inguinal hernia (Bassini's method), castration, hydrocele operation, with removal of the tunica, and the like.

Poisoning by Eggs.—In an inaugural thesis on the subject of poisoning by cream puffs, Dr. Le Coq (*Journal de Médecine*, May 6th, 1906) calls attention to the existence of a poison in the eggs of hens, which he calls ovotoxin. He says that in most cases when poisoning occurs after the use of cream puffs, or similar food containing eggs, it is caused by this toxin. The toxin, he says, may be present in a fresh egg, but rapidly develops in stale eggs. It is generally recognized by a peculiar putrid odor, which is most marked in the yolk, but may also be present in the white. Bakers are warned against using eggs which have been cracked for a time. These should not be used with cream, which seems to be especially suited to produce ovotoxin. The use of desiccated and preserved eggs is condemned. It seems wonderful to think that ovotoxin does not produce deadly results more frequently. In view of the enormous consumption of eggs throughout the world—raw eggs, boiled eggs, scrambled eggs, plain omelets, not to speak of the addition of eggs to pastry—one is surprised to learn that ovotoxin should have been so recently discovered. However, it

may be that the combination of stale eggs with cream is, as Dr. Le Coq says, peculiarly suited to produce ovotoxin. If so, it is an argument in favor of the view that one may eat home-made pastry with more confidence than the more ornate productions of the public pastry-cook.

J. J. C.

PERSONALS.

DR. EDMUND E. KING, having no opposition in East Toronto, was elected to the Medical Council for that constituency.

DR. F. N. G. STARR was elected a member of the Senate of Victoria University. We congratulate the University.

DR. W. A. BALL died the first week in November at his residence in Bathurst Street, after a short illness.

Correspondence.

The Editor cannot hold himself responsible for any views expressed in this Department.

PHYSICIANS' FEES FOR LIFE INSURANCE EXAMINATIONS IN THE PROVINCE OF QUEBEC.

To the Editor of THE CANADIAN JOURNAL OF MEDICINE AND SURGERY :

If you think that it would be necessary in the interest of the medical profession to publish the enclosed communication in your journal, I would be much pleased.

A few years ago nearly all the life insurance companies of North America used to pay to physicians \$5.00 per examination. Since the recent inquiries about the administration of the companies, which have shown wrongful and wasteful expenditures of money, etc., the companies, having decided to economize, began by cutting down the physicians' fees to \$3.00.

At the present time strong efforts are being made in the Province of Quebec against this decision of the insurance companies. About a year ago the Medical Association of the district of Joliette adopted unanimously the following resolutions: "No physicians of this district will make any examination for the insurance companies for less than \$5.00 and for the mutual benefit societies for less than \$2.00." And nine Medical Associations, which cover almost all the Province of Quebec, have adopted similar resolutions. These Medical Associations are: Sherbrooke Medical Society, Wolfe Medical Society, Beauce Medical Society, Chicoutimi Medical Society, Terrebonne Medical Society, Shefford Medical Society, Portneuf Medical Society, Lac St. Jean Medical Society and Three-Rivers Medical Society.

The Congress of Physicians of the French Language, held at Three-Rivers June 26-28, 1906, examined this question, and adopted resolutions to support the movement begun by the associations. Even more, the Board of Governors of the College of Physicians and Surgeons of the Province of Quebec took up this question at a meeting held on the 4th of July, 1906, and adopted the following resolution at the next meeting, September 26th, 1906: "Proposed by Dr. L. A. Normand, seconded by Dr. Laurendeau, That the Board of Governors of the College of Physicians and Surgeons of the Province of Quebec entirely approve of the position taken by the medical societies *re* fees for exam-

inations for life insurance companies and mutual benefit societies; and that consequently the Board of Governors strongly recommend to physicians in the Province of Quebec not to make any life insurance examination for less than \$5.00 and for not less than \$2.00 for the mutual benefit societies. Adopted unanimously. P. V. Faucher, M.D., secretary, C.M.C.P.Q."

It may also be remarked that several medical societies in the United States have adopted resolutions similar to those adopted in the Province of Quebec.

Yours truly,

ALBERT LAURENDEAU.
*Secretary, Medical Association
of the district of Joliette.*

News of the Month.

THE WORK OF THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

At the moment of writing this article there are ninety graduates in medicine in attendance on the clinics of the institution. The larger number of the matriculates take the general course, which consists of clinical instruction in medicine and surgery, from nine o'clock in the morning until ten o'clock in the evening, with an intermission only for luncheon and dinner. The general practitioner who feels the necessity for a brushing up so that he may be able to recognize cases, even if he does not undertake their continued treatment, finds this course for a few weeks the best adapted to his wants. But there is a very large contingent that come for special instruction in the specialties, for example, in diseases of the eye, diseases of the ear, dermatology, operative surgery, laboratory work in histology, pathology and bacteriology. It is for this latter class that the constant advancement in the work of the hospital is intended. During the past autumn the laboratory has been notably enlarged, the number of beds for patients with diseases of the eye and ear increased, and two new teachers in dermatology have been named.

It is hoped that it will be unnecessary for any practitioner of medicine wishing to know a specialty to hereafter go abroad for that purpose, but that he may in New York and in the Post-Graduate Medical School build upon his general training a superstructure which will enable him to be a specialist in the branches we have mentioned, or in orthopedic surgery. In this latter department the Post-Graduate Medical School has a workshop in which all the apparatus necessary for the patients is made by an exceedingly skilful man who was largely trained to his work by the late Professor A. M. Phelps. Then, again, in the study of tuberculosis, there is a morning and evening dispensary for people who are engaged in their ordinary occupations who are affected with tuberculosis. Added to this is a small, perfectly equipped hospital for eight patients where selected cases that are not doing well in the dispensary may be placed for a number of weeks and subjected to the method of treatment which was first adopted in the Post-Graduate by Dr. John F. Russell, and is now carried on by us under the direction of one of the former

members of his staff, Dr. Mersereau. The Department of Operative Surgery on the Cadaver is, of course, open only during the autumn and winter months. That, as well as the Anatomical School, is now in full operation.

It is the endeavor in this school to teach any practitioner anything in medicine or surgery that he may wish to know. At one time a distinguished professor expressed the fear that men would go out from such an institution inclined to undertake things beyond them, which they had seen so easily done by the professors of general surgery, but this is not found to be the case. Men leaving here have a more correct appreciation of the importance of a thorough training than when they came, and are not among those who really undertake what they do not understand. The standard of medical attainment in our country has certainly increased since the establishment of Post-Graduate Medical Schools in Philadelphia, Baltimore, Chicago and New York.

MEDICAL COUNCIL ELECTIONS.

THE following candidates have been elected by acclamation to the Medical Council of Ontario from the territorial divisions named: Division No. 1, Dr. J. L. Bray, Chatham; 3, Dr. J. MacArthur, London; 4, Dr. J. A. Robertson, Stratford; 6, Dr. Henry, Orangeville; 7, Dr. P. Stuart, Milton; 8, Dr. S. H. Glasgow, Welland; 10, Dr. E. E. King, Toronto; Dr. H. Bascom, Uxbridge; 13, Dr. S. C. Hillier, Bowmanville; 14, Dr. A. E. MacColl, Belleville; 15, Dr. W. Spankie, Wolfe Island; 16, Dr. J. Lane, Mallorytown; 17, Dr. M. O. Klotz, Ottawa.

In Division 2 there is a contest between Dr. John Mearns, Woodstock, and Dr. J. H. Carmack, of St. Thomas; in No. 5 between Dr. L. Brock, Guelph, and Dr. Vardon, Galt; in No. 9 between Dr. R. Gibson, Saulte Ste. Marie, and Dr. Aylesworth, Collingwood; in No. 11 between Dr. A. A. Macdonald, Dr. J. S. Hart, and Dr. B. L. Riordan, Toronto.

Amalgamation of the "Therapeutic Gazette" with the "Medical Age and Medicine."—It is announced that the *Therapeutic Gazette* will be amalgamated with *The Medical Age and Medicine* on January 1st. The new journal will be known as *The Therapeutic Gazette*, incorporating *Medicine* and *The Medical Age*.

The Physician's Library.

BOOK REVIEWS.

1. *Text-Book of Obstetrics.* By BARTON COOKE HIRST, M.D., Professor of Obstetrics in the University of Pennsylvania. Fifth revised edition. Octavo of 915 pages, with 753 illustrations, 39 of them in colors. Philadelphia and London: W. B. Saunders Company. 1906. Cloth, \$5.00, net; half morocco, \$6.00, net. Canadian agents: J. A. Carveth & Co., Ltd., Toronto.

Any book written as the result of actual experience in a certain line of work has a value attached to it that is well nigh priceless. Such is Dr. Hirst's "Text-Book of Obstetrics," which now appears in its fifth edition. The author has for twelve years or more given his time exclusively to gynecology. He is, therefore, in a position to speak effectively to his readers, not only as a specialist in this branch of study, but as a teacher for many years of medical students.

The fifth edition is not the fourth altered a little here and there, but is practically a new book, larger and yet condensed. Dr. Hirst has given considerable space to puerperal infection and gestational toxemia. We commend the book to any desirous of securing a work on obstetrics that is practical, crisp and entirely modern.

International Clinics. A quarterly of illustrated clinical lectures and especially prepared original articles, etc., etc. (For completion of title page, see review of Vol. I. of 16th series, reviewed on page 417, Vol. XIX., *Canadian Journal of Medicine and Surgery*.) Vols. II. and III., sixteenth series, 1906. Philadelphia and London: J. B. Lippincott Co. Canadian Agent: Chas. Roberts, Montreal, P.Q.

Quite a number of men eminent in the profession have contributed articles to Vol. II. of this series, among them being Dr. A. E. Gallant, of New York; Dr. J. W. Ballantyne, of Edinburgh; Dr. W. A. Dorland, of Philadelphia; Dr. J. M. Anders, of the same city; Dr. Cuthbert Lockyer, of London; Dr. J. H. Lloyd, of Philadelphia; Dr. W. H. Porter, of New York; Dr. J. J. Walsh, of the New York Polyclinic, and Professor Rovighi, of the Royal University of Bologna, Italy.

The volume covers a wide field and includes Treatment, Medicine, Pediatrics, Neurology, Surgery, Obstetrics and Laryngology. A short, interesting, crisp article is one by Dr. Jas. M. French, of California, on "The Prevention and Treatment of Acute Nephritis." A lecture that is practical and entitled "Clinical Types of Persistent Vomiting," is from the pen of Dr. Herbert C. Moffitt, also of California. He divides his types into Organic Nervous Disease, Toxic Vomiting, Gastric Conditions Causing Vomiting, Recurrent Vomiting in Children, and Nervous Vomiting. The article is worthy of careful reading. Dr. W. A. Newman Dorland gives over twenty pages to "The Female Perineum and its Repair," and to gynecologists especially is particularly interesting. This Clinics is improving as each series comes out.

Those who have contributed to Vol. III. of this series include such men as Ernest A. Gallant, of the New York School of Clinical Medicine; Edward C. Gill, of the University of Denver; C. G. Cunston, of Boston; E. Scott Carmichael, of Edinburgh; Bertram Abrahams, of Westminster Hospital, London; H. S. Clogg, of Charing Cross Hospital; Jos. M. Patton, of the Chicago Polyclinic, and A. N. McGregor, of Glasgow Royal Infirmary.

Volume III. consists of twenty-six lectures, comprising several on each of such subjects as Treatment, Medicine, Surgery, Obstetrics, Rhinology, Otology and Pathology. One that is particularly interesting is that by Dr. T. T. Thomas on "The Surgical Complications of Pneumonia and Their Treatment." Another well worthy of careful perusal is from the pen of Dr. Frederick Griffith, New York Academy of Medicine, entitled, "Hemorrhagic Diathesis Complicating Surgical Work." One lecture that should command particular attention is that on "The Predisposition to, and the Prevention and Treatment of, Pulmonary Tuberculosis," by Dr. John W. Wainright, of New York.

The Canadian agent for the publishers is Chas. Roberts, of Montreal, from whom any of their books can be secured.

A Text-Book of Genito-Urinary Diseases. By DR. LEOPOLD CASPER, Professor in the University of Berlin. Translated and edited by CHAS. W. BOSSY, M.D. Philadelphia: P. Blakiston's Son & Co. 1906. Toronto: Chandler, Ingram & Bell.

One Casper, a professor in the University of Berlin, made all the world his debtor when, about the middle of the last century he issued his classical "Hand-book of Forensic Medicine."

From another of the same name and position comes the volume before us. Prof. Leopold Casper, its author, gains our goodwill at the outset by a graceful tribute paid to Sir Henry Thompson.

from whom he received his first impetus in the direction of the scientific study of genito-urinary diseases.

The translator and editor of the American edition, Dr. C. W. Bonny, advances the claim that Casper's work represents the best teaching in this department of surgery at present available.

Without going quite that far it is safe to admit that there was abundant room for this book, that it is well written and well translated, that it is based upon an enormous clinical experience, that modern methods of investigation are utilized to the fullest extent, and that sound, conservative judgment is manifest upon every page.

With some of the positions taken not every reader will agree. For example, in the treatment of acute specific urethritis a preference is expressed for the nitrate over the newer and less irritating salts of silver. In the selection of an operative procedure for the relief of prostatic hypertrophy, the need for individualizing the patient is well brought out. To the modern suprapubic section as first performed by Belfield, and more recently improved by Freyer, the writer seems in a general way to incline.

To exact methods of diagnosis, such as the use of the Luy's segregator, is given the credit of a fall within the last ten years, in renal operations, of from 26 per cent. to 17 per cent. Since, by the aid of this ingenious and practical instrument just named it is possible for any one of moderate expertness to obtain the urine separately from each kidney, it is no longer justifiable to approach a kidney surgically until this has been done.

In the opinion of this reviewer the purchase of Casper's work by any surgeon in active practice will never be regretted, and the purchaser will gain a new view point from which this interesting class of diseases may be studied.

N. A. P.

American Practice of Surgery. A complete system of the science and art of surgery, by representative surgeons of the United States and Canada. Editors: Jos. D. BRYANT, M.D., ALBERT H. BRICK, M.D., of New York City. Complete in eight volumes, profusely illustrated. Volume I. New York: William Wood & Co. 1906.

The publication of "American Practice of Surgery" has been looked forward to for some time past, and, judging from Vol. I., few of its readers can express any disappointment. It is in every respect a splendid work, and, by the time the last volume appears, should stand for many years as one of the most complete and modern works on surgery that has yet come from the press.

We find that the contributors to Vol. I. include such men as Harvey R. Gaylord, of Buffalo, N.Y.; Jas. E. Moore, of Minneapolis, Minn.; Harlow Brooks, of New York; Preston M. Hickey,

of Detroit; J. C. Bloodgood, of Baltimore; P. M. Pileher, of Brooklyn, and Theodore A. McGraw, of Detroit. To these men and others not named Vol. I. is a credit, composed, as it is, of five parts devoted to surgical pathology, complications and sequelæ, general surgical diagnosis, general surgical treatment and general surgical prognosis. Judging from even a hasty glance through the work, "American Practice of Surgery" should, and doubtless will, command the respect and confidence of those who consult its pages."

W. A. Y.

Genito-Urinary Diseases and Syphilis. By HENRY H. MORTON, M.D., Clinical Professor of Genito-Urinary Diseases in the Long Island College Hospital; Genito-Urinary Surgeon to the Long Island and Kings County Hospitals, and the Polhemus Memorial Clinic. Illustrated with 158 half-tone and photo-engravings and 7 full-page colored plates. Second edition, revised and enlarged. Royal octavo, 500 pages. Bound in extra cloth. Price, \$4.00, net. Philadelphia, Pa.: F. A. Davis Company, Publishers, 1914-16 Cherry Street.

Perhaps few subjects have advanced during the past decade more than that of genito-urinary surgery. Operations upon the bladder and pelvic region are performed now that would not have been dreamed of a few years back. For that reason, it is essential that any book on so important a topic should be subjected to careful revision from time to time. Dr. Morton has gone over this, his second volume, very carefully, the result being that it should receive a goodly reception at the hands of the profession generally.

Readers of this book will find in it a full account of the most recent methods of treatment of prostatic enlargements. He has also discussed at some length prostatic inflammation, as also the diagnosis and treatment of surgical diseases of the kidney.

W. A. Y.

In the Van. By PRICE-BROWN. Toronto: McLeod & Allen. Price, \$1.25.

Essentially a woman's novel, and being the work of a Canadian, it should be interesting to the ladies of this country. There is more than one heroine in the book, though Helen Manning is the leading lady. This lady, who marries Lieutenant Manning in London, in November, 1813, sails shortly afterwards with her husband in the *North King*, a man-of-war, carrying British troops and stores, and after an eventful voyage lands at Halifax. She subsequently accompanies her husband overland from Halifax, *via* Quebec, Montreal and Bytown, to Penetanguishene. The incidents of the march, descriptions of scenery, the reflec-

tions of the bride, with brief accounts of life at Halifax, Quebec, Montreal and Penetang are detailed in her diary.

Camping in the Canadian woods is eloquently worded. "Down in the valley where the men pitch their tents may be still, but away in the tops of the tall pines a whole legion of elfs are sounding their harps and scampering through the branches."

A rival to Johnny Courteau appears in the shape of "Bateese," the French-Canadian wood-man, who is assisted in the production of dialect songs by his *bonne femme*, Emmeline.

There is another love story in the book, too, that of a young lady of Halifax, Mand Maxwell, who, having two strings to her bow, elects to keep "Dr. Beaumont," and rejects "Captain Morris," an English officer, who had won laurels at Lundy's Lane. Dr. Beaumont is not the kind of French-Canadian who wins the admiration of his French-Canadian countrymen. The illustrations by F. H. Bridgen are very fine.

J. J. C.

Year-Book of Pediatrics and Orthopedic Surgery. Edited by ISAAC A. AET, M.D., and JOHN RIDLON, A.M., M.D. Chicago: The Year Book Publishers.

This little volume will prove most valuable to every ambitious practitioner who intends to keep abreast of the times in all which relates to the diseases of children, whether medical or surgical. The busy physician may not be able to keep in touch with all the advances reported in the medical and surgical journals by going to its pages for his information, but can here find wisely chosen and well digested excerpts from journals, home and foreign, giving most valuable information pertaining to the work of the last year. Both in pediatrics proper and orthopedic surgery the work is well done, and this little book may profitably find a place on every practitioner's book-shelf.

B. E. M.

A Manual of Midwifery. By THOMAS WATTS EDEN, London. Assistant Obstetrical Physician and Lecturer on Midwifery, Charing Cross Hospital; Examiner in Midwifery and Diseases of Women, Conjoint Board, R. C. P. & S., etc., etc. London: J. & A. Churchill, publishers. Canadian agents, J. A. Carveth Co., Ltd. Price, \$2.50.

This book is decidedly the most valuable short work which has appeared on the subject of obstetrics during the present year. It presents the results of the most modern researches in embryology, histology and physiology concerning the implantation and development of the ovum and the consequent changes in the mother. The one hundred and fifty-five pages in this section are perhaps the most original we have read on a subject which has heretofore been indefinite and unsettled. Sixty-three pages only are given

to the consideration of the mechanism and treatment of normal labor, but the illustrations in this section are excellent and the text concise and clear. Two hundred and twenty-five pages are devoted to abnormal labor, the puerperium and obstetric operations. Each of these important sections is well illustrated and the accompanying text carefully prepared and reflecting the most painstaking London practice.

The most commendable feature of the book is its originality. Opinions and quotations are not dished up to you as per usual, but experimental proof and sound logic given in support of each statement. Many classical fallacies commonly taught and practised are exposed, and facts drawn from the experience of the great lying-in hospitals and the well appointed laboratory substituted. Contrary to many English text-books, this one contains a wealth of original illustration and is delightful reading. The binding and paper are of the best, and the book deserves to rank with Dr. Adam Wright's work as "the two best text-books."

E. A. M'C.

A Guide to Urine Testing. For Nurses. By MARK ROBINSON, L.R.C.P., L.R.C.S.Ed. Third edition, revised. Bristol: John Wright & Company. London: Simpkin, Marshall, Hamilton, Kent & Company, Limited. 1906.

Nurses undoubtedly should know how to make the common urinalysis, and I know of no book that is more easily understood, more concise, or more simple on this subject than this is. It is not explicit enough to make it of any great value to the average medical practitioner, and of course the student of the present day should be more familiar with this subject than the practitioner of some years standing.

A. J. J.

Clinical Lectures on Neurasthenia. By THOMAS D. SAVILL, M.D.Lond. Third revised and enlarged edition. London: Henry C. Glaisper, 57 Bigmore Street W. New York: William Wood & Co. 1906.

Dr. Savill's view of neurasthenia is that though mental symptoms predominate, the clinical picture of the disease points to a derangement of the entire nervous system—brain, spinal cord, peripheral nerves, and sympathetic nervous system.

The author shows, in an analysis of 103 private cases of neurasthenia, that about 80 per cent. were due to some kind of auto-intoxication (toxemia). Among such auto-intoxications he mentions intestinal derangement, gastric disorder, chronic appendicitis, pyorrhea alveolaris, oral sepsis, blenorhagia, antral disease, chronic alcoholism, excessive tobacco smoking and incipient phthisis.

Organic disease, as well as general disorders—*anemia* and *lithemia*—must be distinguished from *neurasthenia*. Great confusion arises in diagnosing it from *hysteria*.

The abrupt onset of the attack, the intermittency of the symptoms, the presence of *anesthesia*, *paralysis*, *convulsions*, distinguish *hysteria* from *neurasthenia*.

Dr. Savill sketches his portraiture of *neurasthenia* from a very extensive group of living models. His conclusions as to its etiology, pathology, diagnosis, prognosis and treatment appear to be sound. His style is clear and concise. The book is well printed, and is deserving of patronage. J. J. C.

The American Illustrated Dictionary. All the terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry and kindred branches, with over 100 new tables. By W. A. NEWMAN DORLAND, M.D. Fourth revised edition. Octavo of 836 pages, with 293 illustrations, 119 of them in colors. Philadelphia and London: W. B. Saunders Company. 1906. Flexible Morocco, \$4.50, net; thumb indexed, 5.00, net. Canadian agents: J. A. Carveth & Co., Toronto.

The vocabulary of medical science is increasing at such a pace that a dictionary of medical terms, no matter by whom it is compiled, becomes very quickly old and stale unless revised annually. Dr. Dorland now presents his fourth edition to the profession, and in it he has tried to include the many new words that are coming to light almost daily. He claims to have added about 2,000 new words to this edition of his work, each of which he has fully defined. Several new colored plates have been added, illustrating the subjects of measles, appendicitis, diphtheria, gallstones, Leishman-Donovan bodies, and nephritis.

The Practice of Pediatrics. Edited by WALTER LESTER CARR, A.M., M.D. New York: Lea Brothers & Co.

Dr. Carr's name as editor of a work is sufficient guarantee of thoroughness, therefore we are able to say this work is no exception to any of his previous efforts.

It might well be called an encyclopedia, for it is a collaboration of fourteen well-known authorities on this subject, two, Drs. Riviere and Poynton, being well-known pediatricists in England, the remaining men being well and favorably known throughout the North American continent. It is really a book of reference for the practitioner rather than the student.

Subjects taken up singly by various men of variety of thought naturally lack continuity, therefore reference to complications or sequelae occurring in one system dependent upon a diseased condition of another system cannot be made, the work being divided amongst the several collaborators.

No expense has been spared by the publishers: well bound, well printed, containing one thousand pages, with thirty-two full-page prints and one hundred and ninety-nine engravings, artistically and faithfully illustrating the subject-matter. The work has few flaws; perhaps too diffuse in parts, for instance, fibrosis of the lung is long drawn out, covering eleven pages; the subject could have been as fully described in half the space. Again, the various cerebral and spinal palsies are no better classified than they were ten years ago. The subject is chaotic, we all know, difficult to read, mark and inwardly digest. Section III., the article on general principles involved in substitute feeding, we think the best, clearest and most concise yet presented to the medical public. It will well repay careful perusal by any practitioner, giving a thorough, scientific explanation and directions with which the various milk, cereal, whey and broth mixtures may be advantageously employed, without simply and empirically juggling with the old 4. 1. 7. mixture given by Dr. Meigs to the profession a quarter of a century past. This section embraces about eighty pages, clearly and well written, and contains no padding. The careful examination of the excreta is strongly insisted on: the various diarrheas resulting from the non-digestion of sugars, **fats** and proteids is carefully described, so that the attending physician by care and study can see in what particular his mixtures are at fault. The work, although possibly not at present filling any necessary void, is welcome, and well worthy of a place in the physician's library.

A. B.

A Text-Book on the Practice of Gynecology. For Practitioners and Students. By W. EASTERLY ASHTON, M.D., LL.D., Professor of Gynecology in the Medico-Chirurgical College of Philadelphia. Third edition, thoroughly revised. Octavo of 1,096 pages, with 1,057 original line drawings. Philadelphia and London: W. B. Saunders Company. 1906. Cloth, 6.50. net; half morocco, \$7.50. net. Canadian agents: J. A. Carveth & Co., Toronto, Ont.

It seldom falls to the lot of any medical writer to be called upon to publish, inside of one year after the original volume appears, a third edition of his work. It but goes to show that his book has been appreciated and has doubtless merited the reception it met with. It would seem almost impossible for an author to be able to revise to any great extent a volume so recent, but Dr. Ashton seems determined to only allow his name to appear as author of a book containing, not only up-to-date subject matter, but the soundest kind of teaching. Another point about this author's book is that its contents are the outcome, at least largely so, of his own experience, that being more than many another

medical writer can claim. To show how thorough has been the revision of Vol. II., we find that "thirty-two of the illustrations have been re-drawn and seventy-one have been removed. Eighty-two new illustrations have been added, and the work now contains 1,057 pages, which are eleven more than in the previous editions."

W. A. Y.

Kiepe's Materia Medica and Therapeutics. A Manual for Students and Physicians attending post-graduate courses. By EDWARD J. KIEPE, Professor of Materia Medica in the Department of Pharmacy, and Adjunct-Professor of Materia Medica and Pharmacology in the Medical Department, University of Buffalo. In one 12mo volume of 265 pages. Cloth, \$1.00, net. Philadelphia and New York: Lea Brothers & Co., publishers. 1906.

One of the most concise and up-to-date productions in materia medica and therapeutics of the day. A ready reference and of a size suitable to be constantly carried by the student without inconvenience. Brief works of high scientific character are the greatest boons to the present-day student.

A. J. H.

Greens' Encyclopedia and Dictionary of Medicine and Surgery. Vol. II.—Bread to Ear. Edinburgh and London: Wm. Greens & Sons.

Vol. II. of this splendid series has just recently come to hand. We find among the contributors to the second volume such men as Dr. Watson Williams, Mr. A. H. Tubby, D. J. W. Ballantyne, Mr. G. A. Berry, Dr. J. Crawford Renton, Dr. Andrew Davidson, Dr. (now the late) A. Lockhart Gillespie, Dr. Maurice Craig, Dr. J. S. Fowler, Dr. J. Graham Fowler, Dr. H. Radcliffe Crocker, Dr. A. James, Dr. A. Logan Turner, Mr. A. H. Cheatle, Dr. C. A. Starrock, and a number of others.

Like Vol. I., this book is in itself nothing short of an encyclopedia, containing a short, boiled-down description of almost everything in medicine and surgery between the letters B to Ear. Some of the articles are particularly able, and in some cases lengthy. We refer specially to the following: diabetes mellitus, diabetes insipidus, deformities, cytoscropy, cornea and constipation. We can commend Greens' Encyclopedia and Dictionary as a *multum in parvo*, and undoubtedly worth the price charged by the publishers.

W. A. Y.





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